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ARTICLE X.

TOPOGRAPHY OF MASSACHUSETTS.

The Legislature of Massachusetts, some years since, made provision for procuring the necessary surveys for the construction of a Map of the State. The want of a more accurate map, than any yet in existence, had long been felt, and it was the intention of the legislature in the adoption of this measure, to provide for a system of surveys, by which the deficiency should be satisfactorily supplied. They were not, however, happy in the selection of the system of operations by which the work should be accomplished. This system was, to direct the appointment by the executive of the State, of an Astronomer, with instructions to determine by celestial observations the geographical position of certain prominent points, and of an Engineer to determine, by an accurate trigonometrical survey, the relative position of such a number of points in all parts of the State, as would be sufficient for forming an accurate outline of its general features; and for the delineation of the minor details of the map, such as county and town boundaries, streams, roads, public buildings and other objects, to require from the authorities of each town, local surveys, to be drawn on a uniform scale, exhibiting all the details proposed to be exhibited, and to be returned within a given period into the office of the Secretary of State, for the use of the engineer in the construction of the map.

The execution of the three branches of this duty was begun simultaneously. The town surveys were long since made, under the direction of the selectmen of the respective towns, and returned according to law. Robert T. Paine, Esq., who was appointed Astronomer, proceeded to perform the duties assigned to him, in fixing, by careful astronomical observations, the latitude and longitude of the capitol of

the state, and of various lighthouses and other important positions. His final report was made in the winter of 1839. The more elaborate duty of the triangulation of the state was commenced by the measurement of a base line of eight miles in length, on the west side of Connecticut River, in Hampshire and Hampden counties, and was continued, by a system of trigonometrical measurements, from stations fixed upon the requisite number of elevated points, embracing the summits of the principal mountains and headlands, until it was extended over every part of the Commonwealth. This undertaking, which was a work of great labor as well as delicacy, was commenced by Maj. Stevens, and was prosecuted to a conclusion by Simeon Borden, Esq. This labor occupied a period of seven or eight years, and it was completed in the summer of 1838.

It remained to apply these various labors to the attainment of the proposed result, by the delineation of the map, which difficult task devolved on the engineer last above mentioned. It was necessary first to determine the dimensions of the proposed map, and the principle of projection which should be adopted. It being intended that the map should be adapted by its size to convenient common use, it was necessary to fix upon a small scale, that the work might be comprised within the desired compass. It was concluded to fix on a scale of two and a half miles to an inch. This scale will give a map of the state a little more than six feet in length, and about four feet in width, and is sufficiently large to admit of the delineation of all the objects and topographical features, which it can be expected will be exhibited in a work of this character. The principle of projection adopted, is that which supposes the portion of the earth delineated, the greater part of which is less than a degree in width, from north to south, to be a frustrum of a cone.

The method which has been adopted by the engineer in the delineation of the map, as described in his late report to the legislature, is to divide the state into several sections; the first consisting of that part of the state which lies at the west of Connecticut River; the second embracing the whole central part of the state; the third the northeastern part; the fourth extending southeastwardly to Buzzard's Bay; and the fifth embracing the three small southeastern counties: and to draw meridian lines, passing through the most central primitive trigonometrical stations in each section. From these central stations the relative positions of the other points are calculated and delineated, in the same manner as if each section were a plane.

After drawing the trigonometrical map, on a scale of 200 rods to an inch, exhibiting all the primary and secondary stations, the next step was to adapt to it the town surveys, all which were reduced to a corresponding scale. This was found to be a work of great difficulty, and it is yet but partially executed. The difficulty arises from

the want of uniformity and the inaccuracy of the surveys. They are, as might have been anticipated, of all descriptions. Having been procured by the selectmen of more than three hundred distinct towns, without any concert with one another, and with little regard, in many cases, to any other principle than that of complying with the law at the lowest possible cost, it happens that many of them were very unskilfully or imperfectly made. In many cases the plans returned are quite satisfactory. In others the surveys may have been accurately made, but the plans are unskilfully drawn, and in a very large number of cases, it is evident that either no actual survey was made for a great portion of the details exhibited on the plan, or they were made very unskilfully and inaccurately. Under these circumstances it necessarily follows that the plans do not agree, and the inaccuracy of the external outline proves that the other details are not to be depended upon. In some cases there are no means of determining between the disagreeing plans of two adjoining towns, which is defective. In consequence of these defects it has been found necessary to resurvey, in whole or in part, many of the towns, and to procure new plans to be made. A large portion of the plans even in the most uneven and mountainous parts of the state, are entirely destitute of any delineation of the inequalities of surface, called by draftsmen the *topography*, and where these delineations are attempted, they are often made so unskilfully and imperfectly, that they are of very little use. To supply these defects it has been found necessary to send a draftsman, with the necessary surveying implements, into many of the towns, for the purpose of sketching the topography.

The engineer remarks in his report, that without doubt many of the inaccuracies in the town plans were occasioned by the different local attractions of the compass needle. On this subject he remarks as follows.

"While we were engaged in making the examinations of the towns, and the secondary triangulations at the west of Connecticut River, we frequently observed the magnetic bearing of the sides of the triangles, for the purpose of ascertaining the magnetic variation of different places in said district, the result of which is that the compass was found to have a different variation in different places. The extremes were six and nine degrees westerly, and frequently considerable difference of variation was noticed in places not very distant from each other. From the few observations which we were enabled to make, I am of the opinion that the compass ought not to be used in surveys upon the mountainous districts west of the Connecticut River, or rather it should be used only in those districts where the operations of surveying cannot be performed with sufficient facility with other instruments."

These defects of the town surveys account sufficiently for the delays which have occurred in the drafting of the map. It appears

from the report above referred to, that as the work has advanced to the third section, a greater accuracy is generally found in the surveys. There is, however, found occasionally, a town in every part of the state, which has been very carelessly surveyed. In addition to the town surveys, a large amount of documents have been accumulated, affording additional details for the map. Among the most important of these are the numerous surveys made for rail-roads and canals, and the roads laid out under direction of the county commissioners. The following remarks in reference to the results of the trigonometrical survey, from the report of the engineer, are interesting.

"With respect to the accuracy of the main triangulation, as far as we have been able to test the work, it has proved as accurate as we have any reason to expect it could be performed with the instruments used in the work. During the last season, before we had connected the meridian of Mr. Bond's Observatory with the survey, (which work was done in the month of June last) we made some calculations to determine the convergency of the meridian of the State House, with respect to the meridian of French's Hill station, and when the meridian of Mr. Bond's Observatory had been connected with the survey, like calculations were made to determine the convergency of the meridian of French's hill, with respect to the meridian of Mr. Bond's Observatory reduced to the State House, and the two operations were found to agree within one and six-tenths seconds, showing a very close agreement between the Geodetic operations and the astronomical observations. The line which separates this State from the State of New-York, having been run by Mr. Rittenhouse, (a gentleman well known to the philosophical world,) its bearing has been computed from the trigonometrical survey, and compared with the bearings determined by that distinguished gentleman, at the time it was run; their agreement is very satisfactory, varying only about six seconds. I would here mention, that although this was probably run with more care and greater accuracy than any line in New-England, if not in the United States, of the same extent, yet so little care was taken to mark it permanently, that I was unable to find a single monument upon the portion of the line I had occasion to examine (and I examined many miles.) Tradition, however, directed to points where it was supposed the termini of the lines had been fixed. The trigonometrical survey was extended to those points; and we marked them with small marble posts. The near agreement of the two surveys would seem to be evidence that we had placed the stone posts very near, if not exactly, where the commissioners had primitively marked the termini. If this line should be run according to the course determined by the trigonometric survey, —and again according to the course determined by Mr. Rittenhouse, the extreme difference between the two lines would be something short of eight feet;—an exceedingly small error in a line of about fifty miles in length. There is but one other test remaining which we have not already applied, that I now think of, by which to form a judgment of the accuracy of the work, this is a measurement of a verification base

line; a line for that purpose has been selected and the triangulation connected with it. Whether the verification base should be measured for the purpose of testing the accuracy of the survey, I would leave to the judgment of your Excellency, or the Legislature, and would only remark, that I believe it has been uniformly the custom whenever trigonometrical surveys have been made, to measure a verification base, to insure confidence respecting the accuracy of the work."

We are unable to say at what period this important work will be completed, and laid before the public. We infer from the history, given in the report above quoted, of the progress already made, that much remains to be done, not only in draughting the map, but in revising and rectifying the materials; and that a considerable length of time must yet elapse before the work will be ready for the engraver. When it comes to this branch of the execution, it is to be hoped that care will be taken that it shall be done in the best style of the art.

The observations made for the triangulation of the State, afforded the data, also, for determining the elevation of the several stations, above the mean level of tide water. As these stations embrace all the principal mountains and remarkable elevations in the state, the height of most of which has probably never before been measured, these results are of considerable interest, and we therefore annex the following statement.

Names of Stations.	*In what Towns.*	*Heights In Feet.*
Alum Pond Hill,	Douglas,	777.61
Alden's "	Middleboro',	177.66
Ayer's "	Haverhill,	339.23
Asnebumsket "	Paxton,	1,407.42
Blue "	Milton,	635.05
Bald "	Douglas,	713.56
Beaconpole "	Cumberland, R. I.	516.58
Bald Peak,	Mt. Washington,	2,623.65
Bear Mountain,	Wendell,	1,281.33
Becket "	Becket,	2,193.87
Berlin "	Berlin, N. Y.	2,814.35
Bourne's Hill,	Sandwich,	297.27
*Bullock's Neck,	In State Line at Seekonk,	15.80
Clarksburg Mountain,	Clarksburg,	2,272.34
Colonel's "	Palmer,	1,171.61
Chandler's Hill,	Worcester,	748.37
College "	Providence, R. I.	204.22
Castle "	Saugus,	288.00
*Coddon's "	Marblehead,	117.75
Copecut "	Fall River,	355.00
Dug "	Blandford,	1,622.48

Daniel, (Mt.)	Webster,	785.07
Esther, (Mt.)	Whately,	995.12
French's Hill,	Peru,	2,239.40
Fay's Mountain,	Westborough,	706.87
Falmouth Station,	Falmouth,	192.78
Fall River "	Fall River,	259.05
Grace (Mt.)	Warwick,	1,628.21
Great Meadow Hill,	Rehoboth,	265.54
Great Rock "	Rehoboth,	247.77
Great "	Rochester,	126.98
German's "	Yarmouth,	136.48
Hilliard's Knob,	In line between Amherst and Granby,	1,119.74
Hitchcock's Hill,	Wales,	1,189.64
Hawes' "	Barre,	1,285.00
Hatchet "	In State Line at Southbridge,	1,015.94
Holt's "	Andover,	422.95
*Hyannis "	Barnstable,	81.42
Hope, (Mt.)	Bristol, R. I.	216.41
High Ridge,	Williamsburg,	1,479.88
Jilson's Hill,	In State Line at Rowe,	2,108.61
Jackson's "	Blandford,	1,717.21
Joe's Rock"	Wrentham,	485.84
Lincoln, (Mt.)	Pelham,	1,245.92
Mugget Hill,	Charlton,	1,011.62
More's "	Goshen,	1,713.08
Monk's "	Kingston,	312.93
Manomet "	Plymouth,	394.25
Mendal's "	Fairhaven,	146.29
N. end of Base Line,	Deerfield,	220.02
N.W. corner of Rhode Island,	In State Line at Douglas,	633.22
*Nahant Station,	Lynn,	89.90
N. Bedford Court-house, upper part of tower windows,	New Bedford,	164.88
Packard's Mountain,	New Salem,	1,277.82
Proven's "	West Springfield,	664.83
Perry's Peak,	Richmond,	2,089.01
Peaked Mountain,	Monson,	1,238.77
Prospect Hill,	Waltham,	482.27
" "	Hingham,	243.23
" "	Rowley,	264.35
Powow "	Salisbury,	328.02
Pocasset "	Tiverton, R. I.	323.26
Rattlesnake Mountain,	In State Line at Wilbraham,	1,076.79
Rhode Island Station,	Portsmouth, R. I.	286.17
Railcut Hill,	Gloucester,	204.68
Red-brush,	Wrentham,	455.86
Saddle Mountain,	Adams,	3,505.50

Spruce Hill,	Adams,	2,588.38
Seymore's "	Sandisfield,	1,698.05
Scituate "	Cohasset,	179 98
Sprague's "	Bridgewater,	192.26
State House, top of Cupola,	Boston,	248.84
S. end of Base Line,	Hatfield,	169.59
Tufts Hill,	New Braintree,	1,179.30
Tom, (Mt.)	Northampton,	1,213.62
*Telegraph Hill,	Marshfield,	205.30
Wachusett Mountain,	Princeton,	2,018.12
Watatick "	Ashburnham,	1,847.35
Winchell's "	Granville,	1,362.45
Walnut Hill,	Charlemont,	1,887.95

The points, the heights of which are given above, are generally marked at each station by a copper bolt in a rock. They are upon the most elevated part of every eminence named in the table, except where the station has been selected with reference to some local object, as is the case with those in the State Line Boundaries.

The heights of those stations which are marked with an asterisk, have been determined by levelling from them to high water mark, and thence to low water mark on the same day.* Half the difference being added to the height of the station above high water, is taken as its height above the mean level of the sea.

The mean refractions vary from $\frac{1}{10}$ to $\frac{1}{20}$ of the arc on the earth's surface, contained between two stations from which reciprocal observations have been made, but in the interior of the state they are smaller and more regular than on the sea coast, rarely exceeding $\frac{1}{12}$, or falling short of $\frac{1}{16}$ of the contained arcs.

The near coincidence shown in the determinations of the heights of several of the stations by separate and independent data, and the general regularity of the refractions would seem to indicate that reliance may be placed upon the results given above, and it is presumed that six feet may be safely assumed as the maximum of error at any station.

It will be seen from the foregoing table, that Saddle Mountain, in Adams, near the northwestern corner of the State, is much the highest mountain within its limits, being nearly 1500 feet higher than Wachuset Mountain, which is the highest land in the State east of Connecticut River. This mountain is frequently visited by the students of William's College, and it is understood that a sort of observatory is about to be erected upon it, under the direction of President Hopkins, of that college.

* Attention was paid to the state of the weather, at the time of taking the levels. The times chosen for those operations succeeded several successive days of fine calm weather.

ARTICLE XI.

THE RAIL ROADS OF MASSACHUSETTS.

The magnificent system of rail-roads, extending from a common centre at Boston, throughout the State of Massachusetts, and reaching to four of the adjoining states, is now nearly completed. No adequate description of these important works has yet been published. A full description and history of them would form a volume, and it would be a most useful volume, affording from the amount of skill, ingenuity and practical talent employed in the construction of these works, valuable lessons to those who may be called to engage in similar enterprises, and presenting in their ample success a striking illustration of the advantages which an industrious and enterprising community may secure to themselves, by seizing at the proper moment, and by a wise foresight, upon the means which are offered by Providence, for the improvement of their condition.

The advantages of rail-road communication are more important to Boston, than to most of the commercial towns of the United States, because that city is almost destitute of the means of inland navigation. With the exception of the Middlesex canal, it has no channel of water communication with the interior. This canal, by its connexion with the Merrimac River, together with a number of smaller canals, for surmounting the falls on the river, opens a boat navigation from Boston harbor to the centre of New Hampshire; but its utility had greatly disappointed the expectations of its projectors. A transportation by boats, required to pass, in a voyage of sixty miles, several times alternately from the river to the canals, and from the canals to the river, was found too dilatory to be adapted to the conveyance of passengers, and to the kind of traffic there carried on. Visions had been entertained of the practicability of a canal communication between Boston harbor and Connecticut river, and extending even to the Hudson, and surveys had been made for determining the possibility of executing these projects. The result of these investigations was a conviction in the minds of intelligent men, that although such a work would be physically practicable, it would be at a cost far beyond the measure of any supposable benefit to be derived from it. All expectations of the accomplishment of such a work were therefore abandoned.

Such improvements in navigation as had been made in the middle and western part of the State, instead of aiding and promoting the trade of the capital, tended to direct the current of business towards New York, the great national market. The Blackstone canal, leading from Worcester to Providence, tended exclusively to favor the commercial intercourse between the central part of the State, and markets beyond its limits, as did the Hampshire and Hampden and

Farmington canal, leading from Northampton to New Haven. The effect of these new channels in directing the commerce of the State to a centre without its limits, at the expense of its own metropolis, was greatly enhanced by the improvements which had been made in steam navigation, by which not only cheaper channels for the transport of merchandise, but more rapid and easy conveyances for persons, were afforded, than could be found, upon the roads which traversed Massachusetts. The consequence was, that the inhabitants of parts of the State remote from each other, were destitute of any means of communication with one another, bearing any comparison, in ease and cheapness, with those which facilitated their intercourse with people of other States. Massachusetts therefore, was in a fair way of losing not only the advantage of possessing a central mart for its own trade, but the feeling of a community and identity of interest, which is fostered by a freedom of intercourse, and a habitual reciprocation of benefits. In this state of things, when the tide of commercial prosperity, which had hitherto favored the enterprise of the citizens of Boston, was in the opinion of many at the point of turning, the invention of rail-roads presented itself to their attention. To those who took the pains to make themselves acquainted with the merits of this invention, it appeared to be exactly adapted to their condition, and they took measures to recommend it to the attention of the public. The repugnance with which its claims to attention were admitted by a large portion of the public, and the length of time which elapsed, before they became convinced of its utility, are facts for which it is difficult to account satisfactorily.

The first rail-road built in Massachusetts, or in the United States, was one at Quincy, three miles in length, designed for the transportation of Granite from the quarries in the Blue Hills, to Boston harbor. The cost of this rail-road was about $45,000. The first surveys made in Massachusetts for testing the practicability of introducing rail-roads for facilitating public travel, were commenced in 1827. These were further prosecuted in the year 1828, under the superintendence of a Board of *Directors of Internal Improvement*, of which the Governor of the Commonwealth was ex-officio President, and Nathan Hale, Vice President and acting President. Under the superintendence of this board two entire routes from Boston to the Hudson river, one terminating at Albany, and the other at Troy, and two from Boston to Providence, besides several shorter routes were surveyed, and an elaborate report was made, accompanied with maps and plans, embodying a large amount of topographical and other information. This report demonstrated the practicability of rail-roads leading from Boston to the Hudson River, and also to Providence, and recommended to the Legislature the adoption of measures for the construction of a rail-road in each of these directions.

Nothing, however, was done by the Legislature in pursuance of this recommendation. Attempts were made in subsequent sessions of the Legislature, to obtain the establishment of charters by which companies should be incorporated for undertaking rail-roads, in which the governor should be authorized to subscribe for a certain proportion of the stock, on the part of the State. All these attempts failed, and nothing effectual was accomplished towards the establishment of works of this description, until the year 1830. Several charters were granted in June, 1830 for forming companies with the necessary powers for constructing rail-roads, on certain routes, but they all proved abortive from the indisposition of the public to subscribe for the stock, except that for the establishment of the Boston and Lowell rail-road.

In June 1831, charters were granted for the establishment of the Boston and Providence, and the Boston and Worcester rail-roads. The powers and privileges granted by the several charters were in general similar, though they differed in some particulars. These powers, with those subsequently granted by supplementary acts, were ample, for enabling the several corporations to raise by assessment, on subscribers to the shares, the necessary capital, and to make surveys at pleasure, to lay out their roads over the most eligible routes, and to take land and materials for the construction of the same, the several corporations being made liable for the payment of all damages resulting from the taking of the land, or the construction of the road, to be assessed, in case the parties could not agree, by the County Commissioners, with a right of appeal by either party, if dissatisfied with the award, to the decision of a jury.

Power is granted to the directors of the several rail-roads, to levy for the benefit of their respective corporations, such tolls for the transportation of passengers and freight, as they may see fit, subject to the condition that at given periods, the legislature may, in case the net income from such tolls and other profits shall exceed 10 per cent. per annum upon the cost, during the whole period, require the toll to be reduced to such rate as will give 10 per cent. only. This power of reduction by the charter of the Providence and Lowell roads, takes effect at the expiration of four years after the completion of the road, and at the expiration of each successive four years. By the charter of the Worcester road, the right of reduction is limited to periods of ten years. A right is also reserved to the legislature, by each of the charters, at the expiration of twenty years from the opening of the roads for use, to purchase the same for the state, by paying therefor the full cost of the same, with such sum as with the profits which shall have been received, will be equal to ten per cent. per annum on the said cost. The charter of the Boston and Worcester road contains a stipulation that no other rail-road shall within the period of thirty years be authorized to be built from

Boston, or from either of the adjoining towns, to any point within five miles of the western termination of the rail-road, at Worcester or at Milbury. A similar stipulation is contained in the charter of the Lowell road in favor of that road. All the powers granted by the respective charters, are to be exercised by boards of directors, to be chosen annually.

The stock in the Boston and Providence road then limited to $1,000,000 was immediately taken up, a large proportion of it being subscribed by persons residing in New York. The stock in the Lowell rail-road was taken after some delay, and these two companies were first organized. The subscription to the stock of the Boston and Worcester road, limited at first to $1,000,000, was procured with some difficulty. It was found necessary in the first organization of the company, to take the subscriptions on the condition that the persons subscribing should be bound to the payment of one per cent. only of the amount, to defray the expense of the surveys and locations, with the right of abandoning the stock so taken after a full report should be made of the location and estimates of cost.

The Boston and Lowell rail-road was organized by the choice of Patrick T. Jackson as President and Agent, and George W. Lyman, Joseph Tilden, William Appleton, and ——— Directors, and by the appointment of James F. Baldwin as Engineer. The Boston and Providence corporation made choice of Thomas B. Wales as President, P. T. Jackson, Joseph W. Revere, William W. Woolsey, and John J. Loring, Directors, and Maj. William Gibbs McNeil was appointed Engineer. In the Boston and Worcester corporation Nathan Hale was chosen President, David Henshaw, George Bond, Thomas Motley, Daniel Denny, Joshua Clapp and Henry Williams were chosen Directors, and Col. John M. Fessenden was appointed Engineer.

During the latter part of the summer, and the ensuing autumn, the surveys were prosecuted with diligence on the three roads, and on the Lowell road the work of grading was commenced. In the course of the subsequent winter and spring, the general locations of the two others were completed, and estimates of the cost were made.—Considerable changes were subsequently made in each of these locations, on a more thorough investigation of the respective routes. During the winter, additional acts were obtained from the Legislature by each corporation, with a grant of some additional privileges. Among the privileges then obtained by the Boston and Worcester corporation, was the right of building a bridge or viaduct across the Charles river, and also that of increasing their capital stock, if it should become necessary, to $2,000,000. The other corporations also obtained at a subsequent period the right of increasing their capital stock.

The summer of 1832 was occupied, by the Engineers of the two roads, in making a definitive location of a portion of their respective

routes, preparatory to the making of contracts, and by the Directors of the Boston and Worcester road in effecting a definitive organization of their corporation, by an absolute subscription to the whole amount of its stock. It was not until the autumn of this year, that the contracts for the grading of these two roads were made, and the work was actually commenced. The work of excavation on each of the roads was continued through the winter, and in the summer of 1833, it was prosecuted with increased vigor, and the laying of the rails was begun.

The selection of the best line for a rail-road on each of these routes was a work of great difficulty, requiring on account of the great diversity of surface, and in the nature of the ground, a most thorough and laborious investigation and comparison, and the exercise of great judgment and consideration. The art of rail-road construction was then comparatively in its infancy, and the comparative disadvantages of increased distance, curvature, inconvenient rate of inclination, deep cutting, wet and clayey earth, and various other questions, respecting which there had been little practical experience, as they presented themselves in the course of the investigation, were subjects upon which the skill and judgment of the engineers, and in some cases of the Directors, were severely tested. Any decisive mistake, on some of these questions, would have been attended with serious consequences. On each of the roads, in the course of the investigations which took place, great improvements were made upon the routes first selected. To one acquainted with the face of the country through which these roads pass, and the unevenness of the public roads along the same routes, it must be matter of surprise that so favorable routes could be obtained, as have been selected on each, without greater cost in the grading, and without a resort to tunnelling in any instance.

The Boston and Lowell road, which is twenty-five and three-quarters miles in length, surmounts the height of land between Boston and the Merrimack River, by a gradual inclination, not exceeding in any part ten feet in a mile, and in its descent from the summit to Lowell, the greatest descent is at the rates of twenty-three and thirty feet in a mile, and this for a distance of only half a mile. There is no other deviation from a level on the road, exceeding the rate of ten feet in a mile. The greatest elevation at the summit in Billerica, above the level of high tide, is 118.52 feet, and 111.62 feet above the place of beginning in Boston. The termination, in Lowell, is 87.21 feet above high tide. The aggregate of ascent and descent on the road is 190.47 feet. The length of the rail-road hardly exceeds that of the most direct public highway, and the greatest degree of curvature in any part of the road, except within the depot yard at Lowell, is on a radius of 2800 feet, and there is but one circle of less radius than 3000 feet. The road terminates in Boston,

at Barton's Point, in the north-western part of the city, which is approached by a viaduct across the Charles River, built of wood, upon piles of oaken timber. In the viaduct is a draw for the passage of vessels.

The Boston and Providence rail-road is 41 miles in length, being more direct than the turnpike road between the two cities. It is not only direct in its general course, but is remarkably free from inconvenient curvatures. With the exception of one short curve of 900 ft. radius, the curves in general are of 6,000 feet radius. The greatest obstacle in the route was to surmount a high ridge of land in Sharon, 250 feet above the level of the sea, at no great distance from the valley of the Neponset River, which it was necessary to cross. The summit of this highland is reached by means of two planes, ascending at the rate of $37\frac{1}{2}$ and $42\frac{1}{2}$ feet in a mile, for a distance of five miles. Part of one of these planes consists of a viaduct, of hammered masonry, sixty feet in height, and more than 600 feet in length. This is a costly and very handsome work. From the Sharon summit to Providence the descent is gradual, to India Point, at the mouth of the Pawtucket River, where the road terminates. The greatest inclination from a level, with the exception of the two planes above-mentioned, is at the rate of 25 feet in a mile, and this for a short distance only. The road commences in Boston, on Charles street, at a point near the bottom of the Common, and in leaving the city crosses the receiving basin of the Water Power Company, at a level of about five feet below high tide. Besides the main road to Providence, there is a branch, a little more than two miles in length, leading to Dedham.

The Boston and Worcester rail-road is forty-four and five-eighths miles in length. It begins in the southeastern part of Boston, with a freight station on the harbor near South Boston bridge, and after crossing the southerly part of the city, beneath two of the principal streets, at a level of five feet below high tide, passes over the receiving basin of the Water Power Company, crossing the Providence rail-road, and after rising eight feet in the space of a third of a mile, passes over the full basin, and thence follows the valley of Charles river, for a distance of eleven miles, to Weston. It thence ascends the high ridge of land west of the river, by a plane rising at an inclination of 30 feet in a mile, and passes on, to the Concord or Sudbury river, which river it follows up to its source, crossing it several times in its course. It proceeds thence to Elzabeth river, which it follows up to its source, near Cutler's Summit, and proceeds thence to the valley of Blackstone river, and after crossing the outlet of Quinsigamond pond, ascends the ridge which borders the town of Worcester, by a long plane rising 30 feet in a mile, and thence descends to its termination on Main street. near the centre of the town. It thus crosses five summits, dividing different water courses, the general

direction of most of these streams being at right angles to the course of the road. Its greatest elevation is 495 feet above the level of the tide, and the elevation of its termination in Worcester, 470.38 feet. The whole of the descent in passing westerly, is 120.30 feet, and the aggregate of the ascents and descents is 611.1 feet. Its greatest rate of inclination from a level, is 30 feet in a mile, except for a few hundred feet in Boston, where it descends beneath the first bridge at the rate of 44 feet in a mile. It deviates after crossing the Charles river, on approaching the Concord river, and in ascending the summit at Worcester, considerably from a direct course, and its length is three or four miles greater than the shortest distance over the turnpike road. In entering the depot in Boston it has a curve of 600 feet radius. It has three short curves in Brighton, of a radius of 1146 feet in a mile, and other curves of 1432 feet and greater radius.

There is a branch of this rail-road, leading from the main road at Grafton, to Millbury, the length of which is three and a quarter miles.

These three rail-roads, which were thus carried on at the same period, employing a great number of workmen, were completed at nearly the same time. The Boston and Worcester road was opened for a distance of nine miles, from Boston to Newton, on the 17th of April, 1834, and from the 29th of that month regular trains of cars were run three times a day. On the 10th of July these trains were extended to Needham, a distance of 13 miles, and on the 24th of September to Hopkinton, 24 miles; on the 18th of November to Westborough, 32 miles; and on the 3d of July, 1835, the first locomotive ran over the whole road to Worcester. On the 4th of July, four engines made four trips each over the whole road, conveying large trains of passengers. On the 6th, the opening of the road was publicly celebrated by an entertainment given by the citizens of Worcester, to all the stockholders and other guests. From that period three daily trains of cars began to run, leaving Boston and Worcester at 6 A. M., 12 M., and 4 P. M., meeting at Framingham.

The Boston and Providence rail-road was opened on the 30th of June, 1834, from Boston to Sprague's House in Dedham, a distance of 10 miles, and a locomotive continued to run once or twice a day on this part of the road, for about two months. On the 29th of September, the road was opened to Canton, and a regular train of cars was run on this part of the road in connexion with a line of stage coaches, running thence to Providence, and connected also with a line of steamboats to New York. On the 3d of February, 1835, three daily trips were established, running to Dedham. On the 11th of June the road was opened through its whole length to Providence, and a daily train of cars was established in connexion with the New York steamboat line. The trains left Boston for Providence at 9 o'clock A. M., and left Providence for Boston on the arrival of the steamboats. On the 5th of August, two regular

daily trains were established, running between Boston and Providence, in addition to the steamboat train.

The Boston and Lowell road was opened through its whole length on the 27th of June, 1835, and from that date two trains were run daily. On the 4th of July four trains daily, began to run.

These three rail-roads are all built of a substantial edge or T rail, but they differ from one another in the form of rail and mode of construction. They are all graded of a width adapted to a double track, twenty-four or twenty-six ft., but the Lowell is the only road on which the double track is completed. The Lowell road is built in the most substantial and imperishable manner of any in the country. The rails are chiefly supported on sleepers of granite, extending across the road, at intervals of three feet. On some parts of the road the rails are laid on stone blocks, or blocks intermixed with cross sleepers, and on a small part there is an intermixture of wooden sleepers. The stone sleepers are seven feet long, and from eight to twelve inches in the other dimensions. The stone blocks are of a size of three or four cubic feet. In the first track, and a part of the second, the sleepers and blocks are laid on a foundation consisting of a continuous dry stone wall, laid beneath each rail, in trenches from two and a half to four feet deep, and about a foot and a half thick. A part of the rails, consisting of most of those which form the first track, are of the fish-belly pattern, and are supported on cast iron chairs, which are fastened by iron spikes to the sleepers or blocks. Holes of an inch in diameter are drilled in the stone blocks for receiving the spikes, into which an oaken plug is first inserted, and the spike is driven into the plug. The residue of the rails are of the T shape, resting upon the flat under surface, of four inches in width, and fastened at each sleeper by spikes and at each end by cast iron chairs. The sleepers and blocks of the second track, (with the exception of three miles, which are laid in the same manner as the first) are laid on a bed of clean gravel, of seven and a half feet in width, and two and a half or three feet in depth. The cost of the road has been about $1,650,000, of which $75,000 were expended for land, damages, and fencing; $260,000 for iron; $200,000 for bridges and culverts; $115,000 for depots and buildings; $120,000 for engines and cars, and $880,000 for forming the road, laying rails, and general and incidental expenses.

The Boston and Providence road is built of the T rail, of a weight of 55 lbs. to a yard in length, laid on white cedar sleepers of seven feet in length, placed at distances of three feet from one another. These are laid generally upon the earth; in some instances upon longitudinal sills, and for a short distance on walls of small stone. The rails are fastened at each end by a plate of cast iron, and at each sleeper by two spikes. The length of the road, together with the Dedham branch, and the Seekonk branch, which by authority of the

legislature has been purchased as an appendage to the road, is about forty-three and a half miles. The cost has been about $1,850,000, of which the depots and buildings have cost about $70,000; the cost of engines and cars $150,000; cost of land and damages $204,000, and construction of road, including cost of iron, bridges and culverts, with general and contingent expenses, $1,426,000.

The Boston and Worcester road is formed of an edge rail, of parallel sides, fifteen feet long, four inches deep, and two and a quarter thick on the top, weighing 40 lbs. per yard, and supported at intervals of three feet by cast iron chairs weighing fifteen pounds each. The chairs are fastened by square spikes to wooden cross sleepers, of white or red cedar or chesnut, seven feet in length. The sleepers are supported at each end by a bed of stone rubble, laid in trenches of two feet in depth and a foot and a half in width. The road is graded of a width of 24 feet. One track only is laid, except for a distance of about seven miles near the middle. The second track for this distance is laid of rails similar in form to those of the first track, but weighing 47 lbs. to the yard, and with chairs weighing 15 lbs. each. The sleepers are of chesnut, and they are supported at each end by a sill running longitudinally, beneath the rail, bedded in gravel. The bed of the road beneath the cross sleepers, and between the rails, is formed of gravel. The cost of the 48 miles of road, with the depot stations, buildings, engines and cars, was $1,848,085: viz. for land and damages, $183,096; depots and buildings, $168,007; engines and cars, $156,049; construction of road, masonry, bridges, iron, and general expenses, $1,340,933.

The fourth rail-road leading from Boston is the *Eastern*. It begins at East Boston, at which point it is reached by a steam ferry from Lewis's wharf, in Boston, and passes through Salem, Ipswich, and Newburyport to the New Hampshire line, whence it is to be extended to Portsmouth. The length of road in Massachusetts is 38 miles, and in New Hampshire 15, making a total of 53 miles. The charter for this road was granted in April, 1836, and the work was commenced in August of the same year. It was opened for public travel, from Boston to Salem, a distance of 13 miles, August 28, 1838, and the number of passengers who travelled over it in the following three months was 89,032, for the year 1839 the number of passengers was 301,010. A further portion of the road, from Salem to Ipswich, a distance of 12 miles, was opened December 18, 1839, and a further portion, extending to Newburyport, June 16, 1840. The work of the remaining portion to Portsmouth is far advanced, and will be completed the present season. The expenditure on this road, to January 1, 1840, was $1,306,196. A more particular history and description of this road will be given in a future article.

The four rail-roads above described are the main branches of the system of works in Massachusetts, which expands from a common

centre at Boston, to the borders of this State, and thence into the neighboring States. The line of the three first named of these roads has already been extended by means of subsidiary, but independent rail-roads, by which their original extent is more than doubled. In each case the new roads are united with the parent road, on such terms that the several roads form, so far as the public are concerned, but one line of communication, affording the means of uninterrupted transport for passengers and freight, from one extremity to the other.

In connexion with the Providence rail-road is the Taunton Branch rail-road. This road diverges from the Boston and Providence road at Mansfield, at a distance of 24 miles from Boston. This road is 11 miles in length, it has no curve except that by which it diverges from the main road, and its greatest deviation from a level is at the rate of 29 feet in a mile. It is graded 24 feet in width, has a single track, and is laid of the T rail, similar to that used on the Providence road. Its cost was $250,000. It is usually travelled in from 22 to 25 minutes.

The Taunton and New Bedford rail-road is a further extension of the same road, built by an independent company. It has very little curvature, and very little deviation from a level. It is 20 miles in length, and its cost was about $400,000. It is built with the T rail similar to that used on the Providence road, which is laid on wooden cross sleepers, resting on longitudinal sills of wood. It was begun in 1839, and was opened for public use July 1, 1840. It is usually travelled in from forty to fifty minutes, and the passage from New Bedford to Boston, 55 miles, is made in two and a half hours.

In extension of the line of the Providence road in another direction is the Stonington rail road, which leads from Providence through the State of Rhode Island, and a part of Connecticut, to Stonington, a distance of 47 miles. This is a finely built and substantial road, built with a heavy T rail, at a cost of more than $2,000,000. On this line of rail-roads there is a daily train of passenger cars, connected with a line of steam boats running from Stonington, which forms a route of rapid and easy communication between Boston and New York. The extent of the four rail roads, thus united, including the Dedham Branch is 121 miles.

In connexion with the Boston and Worcester road, is the Western rail-road. This road unites with the above named road at Worcester, and proceeds westerly over the height of land at Charlton to Springfield a distance of 54 miles, and after crossing Connecticut river, reaches the western boundary of the State at West Stockbridge. The eastern section to Springfield is completed, and was opened in November last: the western section is in process of rapid execution. The same line of rail-road is already extended from West Stock-

bridge, by the Hudson and Berkshire rail-road to Hudson in New York, and the means are provided for another extension to the Hudson river, opposite to the city of Albany. The cost of the Western rail-road, as far as it is completed to Springfield, was $1,972,985. There are two regular passenger trains, and a freight train running daily each way, between Worcester and Springfield.

In connexion also with the Boston and Worcester road, is the Norwich and Worcester rail-road, uniting the two towns which give it its name. It is 59 miles in length and was built at a cost of $1,500,000. It is built of a heavy T rail weighing 56 pounds to a yard, each rail 18 feet in length, and its workmanship throughout is substantial and durable. It has no grade exceeding 20 feet in a mile, and after the first four miles from Worcester, it is either descending or level, through the whole distance to Norwich. It was opened to the public travel in March last, and a daily train of cars is established upon it, and the Boston and Worcester road, in connexion with a line of steamboats from Norwich to New York, forming an eligible route for the travel between Boston and New York. There are besides, two daily passenger trains, and one freight train. These three rail-roads, as far as now completed, form a connected system of roads of 170 miles in extent; and when the Western and West Stockbridge and Albany rail-roads shall be completed, this connected series of roads will form an extent of near 300 miles.

In connexion with the Boston and Lowell road is the Nashua and Lowell rail-road. This road is 14¼ miles in length, situated partly in Massachusetts, and partly in New Hampshire. It was built at a cost of $353,662. The part in Massachusetts is nine miles in length.

The Boston and Portland rail-road is also connected with the Boston and Lowell road, from which it diverges at a distance of 15 miles from Boston. It is 20 miles in length, and passes through the town of Andover, and after crossing the Merrimac river near the town of Haverhill, terminates at the southern boundary of New Hampshire, in a direction towards the town of Exeter. It was opened to public use, together with a portion of the Boston and Maine rail-road in New Hampshire, on the 1st of January last. It was built at a cost of $515,000. This road, together with the part of the Boston and Maine rail-road already completed, now terminating at Exeter, extends the line of rail-road communication 34 miles from the point of divergence from the Boston and Lowell rail-road, and 49 miles from Boston. The work of the Boston and Maine road is now under contract for a further extension to Dover. The part already completed, of the four rail-roads thus connected, reaching in two branches into New Hampshire, has an extent of 74 miles. Of these several subsidiary roads thus cursorily noticed, we shall give a more full history and description in another article.

The motive power used exclusively on all the roads, is steam. The usual speed of passenger trains, is 20 to 25 miles an hour, exclusive of stops. The usual speed of freight trains is about 12 miles an hour. The trains on the Providence road, connected with the steamboat lines to New York, make the passage between Boston and Providence in something less than two hours. The route from Boston to Worcester, on the steamboat line, is performed in two hours, and from Worcester to Norwich in two and a half, making the passage from Boston to Norwich, 104 miles, in four and a half hours. The usual trips between Boston and Worcester, including ten stops at the intermediate stations, to receive and discharge passengers, are performed in two and a half hours. The shortest passage which has been made from Worcester to Boston, was made for carrying an express, in an hour and 19 minutes. The route from Springfield to Boston, 99 miles, is usually performed, including 18 stops, in five and a half hours, and from Boston to Springfield, in five and three-fourths hours. The usual length of a passage over the Lowell road, is one hour and ten minutes.

The following table exhibits the length, with the cost of the several rail-roads and branches as far as they are completed, and also their receipts, current expenditures, and dividends for the last year.

	Length. Miles.	Cost. Dollars.	Receipts in 1839. Passengers. Dollars.	Freight. Dollars.	Expenses. Dollars.	Dividend.
Providence,	43	1,852,039	234,237	76,835	100,031	8 pr. ct.
Worcester,	48	1,848,085	122,495	109,311	122,632	6½ pr. ct.
Lowell,	26	1,650,000	135,037	105,296	92,151	8 pr. ct.
Eastern,*	38	1,306,196	113,068	12,651	53,176	7 pr. ct.
Taunton br'h	11	250,000	40,910	17,018	40,711	6 pr. ct.
N. Bedford,	20	400,000	just opened.			
Western,†	54	1,972,986	13,473	4,136	14,380	just op'd.
Norwich,‡	59	1,500,000	just opened.			
Nashua,	14¼	353,602	36,646	18,406	28,658	7 pr. ct.
Boston and Portland,	20	506,126	53,885	20,048	43,322	6 pr. ct.
W. Stockbridge,	2¾	11,310				
Charleston br.	1¼	91,028				
	337¼	11,741,432	749,751	363,704	495,061	

Average dividend, by roads that are finished, 7¼ pr. ct.

The amount already expended in the state exceeds $12,000,000.

* Unfinished. The expenditure is given to the 31st of December. The income was derived chiefly from the part of the road between Boston and Sa'em.

† To Connecticut river. The expenditures west of Connecticut river are not included in the statement of cost. The capital provided is $4,500,000. The estimated cost west of Connecticut river is $2,326,442.

‡ One third part in Massachusetts and two thirds in Connecticut.

ARTICLE XII.

RAIL-ROAD MONOPOLY.

On the introduction of the new method of carrying by rail-roads, applicable both to passengers and to merchandise, some new principles of legislation seem to be necessary, for regulating and defining the rights and interests of the parties concerned. These are regulated in part by the charters of the rail-road companies, but there are some principles, part of which could not have been provided for in anticipation, which these charters do not reach. The charters granted by the legislature of Massachusetts, are drawn up with a more clear foresight of some of the limitations which should be made of the powers granted, than those which have emanated from the British Parliament. The most important point was, while granting to the companies the necessary powers for the management of their concerns, and the privileges necessary to secure to them an adequate return for their large investments of capital, to secure the public against an abuse of those powers and privileges. From the very nature of these undertakings, it was necessary that the companies should have granted to them what is virtually a monopoly of the carrying on their respective routes. The British Parliament attempted to defeat this monopoly by a reservation in favor of the public, which has proved unavailing. The Massachusetts charters have effectually attained the object, by requiring an annual return of the receipts and profits of the several roads, and reserving to the legislature the right of requiring a reduction of the tolls and fares, whenever these profits exceed ten per cent. on the amount of the investment. There is another limitation of these grants, which secures to the legislature the right, at the expiration of a certain period, to purchase these roads for the use, and to be the property of the state, by paying for them an amount equal to the cost, and such further sum, as, with the net income derived from them, will be equal to an annual profit of 10 per cent. With these limitations, it is placed out of the power of the companies to levy upon the public, rates of toll, or fare, beyond what was deemed a reasonable compensation for the income of the capital invested, and the risk run, by the subscribers to the several corporations.

Some of the British Acts fix the maximum rate to be charged per mile, for the conveyance of each passenger. In others there is no such limitation, it being deemed unnecessary, as any excessive demand was intended to be guarded against, by reserving a right to rival companies to establish the business of carrying, on the same rail-road. The Massachusetts charters secure to all persons a right to the use of the road, under such regulations as the directors shall prescribe, as to the mode of using. The mode of use which has

been prescribed on all the roads, is that of carrying all passengers and merchandise by the corporation itself, in carriages and wagons moved by locomotive power, at certain fixed rates of fare and freight, of which all persons, by paying the rates so fixed, have a right to avail themselves. No right to other parties than the owners of the several roads, to place carriages and locomotives on the rail-roads, is granted by the charters; and if it were granted in express terms, as in the English charters, it is evident that it could confer no privilege, as is fully admitted by the committee of the British Parliament. The rights secured to the public are a common right, to use the road in the manner prescribed to the directors — a right reserved to the legislature to reduce the fares at specified periods, if the income exceed the prescribed rate of profit — and a right also reserved to the state, to become the proprietors of the road on certain specified conditions.

No such reservations having been made in the British charters, an inquiry has been instituted in Parliament, as to the mode in which the companies can be restrained from any undue exercise of their rights of monopoly; it being confessed that the intended limitation of that monopoly has failed, from the evident impracticability of placing rival engines and carriages on the same rail-road. This inquiry has led to a very full and curious investigation, by a committee of Parliament, in two successive sessions, in the course of which the principal officers of all the large rail-road companies were called on to give testimony. The committee of each session has made a report, in which they state the results of their investigations. Both committees came to the opinion, that any attempt to limit the monopoly of the carrying, virtually granted to the rail-roads, would be unavailing, and they recommend, as the best method of guarding against abuses of this power of monopoly, the adoption of some system of superintendence and control, to be entrusted to some department of the executive government, with a view particularly of obtaining such information at all times, in relation to the operations of the several rail-roads, as Parliament may require. This is an object already provided for in the Massachusetts charters, by the requisition of annual returns, which are regularly referred to committees of the legislature, and published. The following extracts embrace the substantial part of the report of the Parliamentary committee on this subject.

The Legislature, in its anxiety to prevent a monopoly which was not sought even by the promoters of the Bills, enacted that any person might place and run his own engines, carriages, and waggons on a Railway, subject to the payment of certain tolls, but under such regulations as might be made by the Company. With the same view it was provided that the owners and occupiers of adjoining lands should have free access to the Railway, and might make Branch Lines to join the

Company's Line, in which case the Company should be bound to make an opening for the Branch Line, charging the cost of this work to the parties requiring the accommodation. Rights were also given to Lords of Manors and other owners of contiguous land to erect wharves, and they were farther empowered to use the Railway as far as their own land extended, without being liable to any payment of toll (a privilege obviously useless, except under the supposition that such land-owners need not apply to the Company for locomotive power); while the beneficial use which they might make of Railways, in the cheap conveyance of their produce to a distant market, and in bringing manure and materials for their lands and buildings, was frequently stated to be the chief inducement for allowing their property to be intersected, and their lands purchased.

Parliament, in pursuance of the same erroneous view, considered that it had sufficiently provided for the interests of the public, when it had limited the amount of tolls, and enacted that these should be regularly published, by being affixed in conspicuous parts of the toll-houses; rates for the carriage of various articles, such as limestone, coal, manure, timber, corn, cotton, &c., were evidently limited with the same intention of guarding the public against an arbitrary charge. It is obvious that all these restrictions and limitations were useless, except under the supposition that there should be a free competition among the parties supplying the locomotive power.

In the first instance, undoubtedly, many Railway Proprietors believed that they were to derive their profits and the return for the outlay of their capital, from tolls only, and that it was not for their interest to be engaged in the carriage of passengers or goods. Great difficulty, however, was found in adhering to this principle, since parties unconnected with the Railway were not willing to embark their capital in an establishment of engines and carriages under such regulations as were deemed necessary by the Companies. Further experience also taught Railway Directors that they could not, with due regard to the efficiency of their Railway, and to the convenience and safety of the public, allow rival parties to place and run engines and carriages on the same lines. It was eventually acknowledged that these lines of communication must be placed under one undivided control and authority, and that any departure from this principle would be attended with the greatest injury to their property, and inconvenience to the public, if not with more calamitous results. The Committee of last session directed their attention to this point, and after a careful and lengthened inquiry, they recorded their deliberate opinion, "That it is indispensable, both for the safety and convenience of passengers and the public, to prohibit, as far as locomotive power is concerned, the rivalry of competing parties on the same line of Railway, although such prohibition involves the continuance of the monopoly."

It is unnecessary here to repeat the grounds on which this opinion is founded; but your Committee beg to state to the House that they entirely agree with the conclusion come to by the Committee of last Session, and that further investigation has only strengthened the reasoning and confirmed the correctness of the opinion above recorded.

If, then, it is acknowledged that Railway Companies must be confirmed in the possession of an exclusive authority and management over their own line, and that they are to be allowed an entire monopoly in providing and regulating the locomotive power, it becomes obvious that the intentions of the Legislature, and the provisions inserted in all the Railway Acts for the purpose of counteracting monopoly, have been unavailing; and that, so far from now enforcing those intentions by an additional legislation, Parliament should abandon a course which could only render these great lines of communication inefficient and unsafe.

While your Committee recommend that such additional and extensive powers should be sanctioned and secured to Railway Companies, they would call the immediate attention of the House to the consideration of such measures as may, with due regard to the interest of the Companies, best protect the public, and afford to the community some guarantee of equivalent advantage, in return for the private rights which have been interfered with. In explaining their views on this subject, your Committee will, for the sake of clearness, divide the question into two branches; first, as regards the conveyance of passengers; and, secondly, as regards the carriage of cattle and goods by Railway.

THE CONVEYANCE OF PASSENGERS BY RAILWAY.

When Parliament limited the tolls to be charged for passengers on Railways, it was obviously with the intention of securing to the public the means of rapid conveyance on reasonable terms; and it is equally clear, that if the Companies are to remain the monopolists of the locomotive power, and are unlimited in their charge, the passengers may be subjected to any amount of fares which the Railway Directors may think fit to impose. On the London and Birmingham, and several other Railways, this is not the case, since it appears that clauses have been introduced into their Acts, limiting the total amount of charge for a passenger to the sum of 3½ d. a mile.

Several witnesses have endeavored to maintain, that the fear of exorbitant charges on the part of Railway Companies, is imaginary; for that the real interests of these great establishments must always be identical with those of the public; and that there is no danger that the Companies should ever neglect the convenience of the passengers, from whose favor and custom their profits are chiefly derived.

Your Committee are in no way inclined to underrate the spirit of enlightened liberality and enterprise by which the Directors of these establishments have been usually animated; but it must be observed, that when Parliament carefully fixed the maximum rate of tolls, and enacted that these should be regularly published, this step was taken with the manifest intention of guarding the public against any arbitrary charge; and under the present acknowledged monopoly of Railway Proprietors, it becomes equally incumbent on the Legislature to secure the public against the possibility of any unreasonable exaction.

The most obvious method of securing this object would be, to limit

by law the charge for locomotive power, and to provide against unreasonable demands on the part of Railway Companies for the carriage of luggage, and the accommodation afforded at the stations. The Committee of last Session accordingly directed their attention to ascertain the cost of locomotive power. Mr. Bury, who contracted to supply the London and Birmingham Railway with locomotive power, stated his opinion that it might on that line be done at the rate of a farthing per mile per passenger,* and that this would leave a fair profit to the contractor. It appears that he had himself contracted with the Directors of the London and Birmingham Railway on these terms; but that the conditions of the contract had never been carried into effect.

A due regard, however, to the interests of the public, and justice to Railway Proprietors, require that no hasty decision should be adopted on this important subject, and your Committee feel that they have not sufficient information to justify them in pronouncing an opinion applicable to all the Railways throughout the country. In order to arrive at a fair estimate of the expense of the locomotive power requisite for the conveyance of passengers, it is necessary to be accurately acquainted with a variety of details upon which there exist as yet great differences of opinion, among those who have had practical experience of these undertakings. The cost of locomotive power depends in a great measure upon the construction of the engine, the price of fuel, the gradients of the line, and a variety of other points in which experience has led to very different conclusions from those which were first adopted. The number of engines necessary for the conveyance of passengers, in order to ensure regularity, and to diminish the chance of accidental delays, which are frequently attended with danger, can only be known by continued practice, and any legislative interference in this particular might hazard the efficiency of the Railway.

Any attempt to fix the charge for locomotive power must necessarily include the speed of travelling on the Railway, otherwise, since companies would be induced to use as few engines as possible, and those of cheap construction, the convenience of passengers might be materially diminished. It is well known that increased speed adds considerably to the expense of the Railway Companies; and consequently, under a limitation of the charge for locomotive power, they might seek to augment their profits by reducing their rate of travelling. These are some among the reasons which have prevented your Committee from recommending to the House any interference with the charge for locomotive power imposed by Railway Companies; but while they leave to these Companies a perfect monopoly in this respect, they feel

* The Locomotive expenses on the London and Birmingham Railway, as well as on the rail-roads of this country, amount to about a third part of the current expenses; the repairs of road, the repairs of carriages, the wages of conductors, and the general charges, exclusive of interest or income of the capital invested, constitute the other two thirds. The locomotive expenses on the London and Birmingham railway, are low, averaged upon each passenger, in consequence of the large average number of passengers in each train, and on account of the very perfect condition of that railway. They are considerably lower than on the Grand Junction, or the Liverpool and Manchester roads.

that some authority should be established for the purpose of watching over the interests of the public, and obtaining such information as Parliament may require.

[Here follow a number of resolutions which the Committee propose shall be adopted for carrying their views into effect. The Committee remark that in their recommendations they "mainly had in view the means of enforcing the law, and the power of obtaining such returns as may be required, with the view of observing in what manner these powerful bodies continue to execute the important trusts committed to them, and to enable such superintending authorities to recommend to Parliament additional measures, if hereafter they should be deemed requisite."]

CARRIAGE OF CATTLE AND GOODS BY RAILWAY.

The Committee of last Session collected a great variety of evidence on this subject; and in furtherance of the same inquiry, your Committee have carefully considered the petitions which have been referred to them by the House, and have examined many carriers and other persons interested in the carrying trade.

Your Committee have shown that Railway Companies have obtained a complete monopoly for the conveyance of passengers on their several lines; and it has been recommended that under a proper supervision this monopoly should be protected and confirmed. Upon this admission three further questions immediately arise; first, whether these Companies will probably obtain a similar monopoly for the conveyance of goods; secondly, supposing such a monopoly to be established, would it be advantageous or inconvenient to the public; and lastly, should Parliament interfere, and to what extent.

The subject is one of importance, not merely as it affects the interest of the carriers, but as it involves the transport of merchandize, and the supply of markets, thereby materially concerning the accommodation of the public, and exercising an influence over the internal and external commerce of the country.

Whenever a line of railway is opened for the carriage of goods, it enters into competition with the means of conveyance previously existing, whether by roads or canals. It appears from the evidence that carriers using waggons or vans on roads cannot successfully compete with a Railway. On the longest line of railroad communication as yet completed in this country, namely, from London to Liverpool and Manchester, it is stated that the carriers have been obliged to abandon their former mode of transmitting goods by conveyance on the turnpike roads, and seek assistance from the Railway Companies. The canals, however, still retain their business; and having reduced their charges, continue to be used for the carriage of goods in cases especially where the weight gives them some advantage over the Railway. As far as regards the heavy merchandize, it appears probable that the canals will always secure the public against any unreasonable demands on the part of the Railway Companies; but your Committee are aware that instances are not unfrequent where Companies and large capitalists, instead of competing with each other, and acting in rivalry, have

combined, and entered into agreements, whereby the public have suffered. In proportion as the carriage of goods by turnpike roads is gradually abandoned, and the capital now employed in this means of conveyance is transferred into other trades, the opportunity of a combination between canal and railway proprietors will be facilitated, and the whole internal commerce of the country may be under such an arrangement disadvantageously influenced and controlled.

Your Committee have consequently endeavored to ascertain in what manner the carriage of goods by Railway may be most advantageously conducted, so as to secure the public against the evils incident to monopoly. The carriers in most of their petitions suggest that the only measure by which their trade can be protected, is by prohibiting Railway Companies from acting as carriers on their own line of Railway, and in support of this opinion, they have brought a number of witnesses before your Committee, and numerous cases have been stated in which the carriers considered themselves to have been seriously injured by the regulations of the Railway Directors. It appears that, even as regards the carriage of goods, a Railway Company must have certain powers of regulating the trade on their one line. The Company must supply the locomotive power, fix the speed of conveyance, the weight to be conveyed, the hours of arrival and departure, and such other matters of detail as are essential to the due management of their Railway; many witnesses contend that their duties should here cease, and that the companies should not be allowed to carry goods on their own behalf, otherwise they will by indirect as well as by direct means drive all private carriers from their line.

On the three undermentioned Railways three different systems are in operation. The London and Birmingham Railway Company do not act as carriers on their own line, but admit all private carriers on certain terms to make use of their Railroad; the Grand Junction Company, from Birmingham to Manchester and Liverpool, admit private carriers on their line, but they themselves at the same time undertake the carriage of goods, and compete, therefore, with the private carriers whom they admit on their line. The Liverpool and Manchester Railway Company are required by their Act to undertake the carriage of all goods between these two towns, whereby private carriers are virtually excluded from participation in this business.

Your Committee have examined into each of these different systems.

The system adopted by the London and Birmingham Company allows all carriers who choose to avail themselves of the terms offered by the Company, the facility of sending goods to any amount, the waggons and the locomotive power being provided by the Railway Company, and the periods of departure and arrival being also fixed by the Directors.

This arrangement, however, can hardly be said to offer such competetion as to secure the public against exorbitant charges, because the demand for carriage depends upon the terms fixed by the Railway Directors, and the rivalry between the carriers is in a great measure restricted to the collection and delivery of the goods with which they

may be entrusted. This competition, therefore, affords no guarantee that the service will be performed at the lowest remunerating charge; but it is stated that the public derive many advantages from the system. The profits of each carrier will depend on the amount of his business, and this can only be maintained and increased by an incessant attention to the wishes of his employers, and by his civility, punctuality, and care in the collection and delivery of goods. It is further stated that all the details of the carrying trade will be more attended to by those who earn their livelihood from it, than if such a large additional concern were left to the management of Railway Directors, necessarily less acquainted with the details of such a trade, and less interested in its success.

An entirely opposite system, is, however, in force upon the Railway between Liverpool and Manchester; and your Committee have not heard any complaint on the part of the public, showing that the business is negligently performed. On the contrary, your Committee believe that it has been carried on very much to the satisfaction of the public. On this line, (and it is the only Railway to which such a provision appears to have been applied,) the Company are obliged to carry any goods which may be brought to them for conveyance, and are limited as to the amount of charge which they may demand for the carriage, and this limitation includes the charge for locomotive power as well as the charge for toll. It appears, however, that they do not charge the maximum to which they are entitled by the Act; and it is acknowledged that their prices are fixed, with reference to the prices for water-carriage, between the towns of Liverpool and Manchester; between which two places there are three water conveyances, upon two of which the owners themselves are carriers, in addition to several independent carriers who use these lines of water communication.

On the Grand Junction Railway both these systems are in operation; the Company act as carriers, and private carriers have also been admitted on the line. The arrangements under which the carrying business is at present conducted on this line appear to have been attended with inconvenience to a portion of the public, and to have created much ill feeling between the parties concerned. The Company, before admitting any carrier on their Railway, bind him by agreement not to charge his employers less for the carriage of goods than the price which the Company demand. It is obvious that under such a system the public can derive but very little benefit from the competition, while the jealousies that have arisen between the servants of the different parties, have created many hindrances to the traffic, and consequent complaints from the public. The Directors of this Railway have stated to your Committee that they feel great inconvenience from the present arrangements, and that in their opinion it will be necessary that the whole carrying trade should be undertaken by the Railway Company, to the exclusion of the private carriers; and that, in fact, it is their intention to become the sole carriers on the line, while no restriction will be imposed upon them by law, as to the amount of their rates of charge. The evidence clearly shows that if the Railway Directors determine to

carry this opinion into practice, it will be quite impossible for the private carriers to continue their business; and the entire traffic upon the line of a Railway must inevitably fall into the hands of the Railway Company, unless the Legislature should think it expedient to interfere. Your Committee have therefore felt it to be their duty to inquire, whether or not the public interest makes it desirable that Parliament should interfere. The only measure which could effectually protect the carriers against the competition of the Railway Company, on whose line they conduct their business, would be a prohibition to Railway Companies from acting as carriers. A full consideration of all the circumstances, and a due regard for the interests of the public, as well as of the parties more immediately concerned in these undertakings, have induced your Committee to recommend that no such measure should be adopted by the Legislature; but while they declare their opinion that such an interference would be inexpedient, they feel strongly the necessity that the public should be protected against the imposition of exorbitant charges for the carriage of goods.

A reference to the clause in the Manchester and Liverpool Railway Act will illustrate the view taken by your Committee, but they feel that the various circumstances of different Railways make it desirable that the nature of the particular traffic upon each Railway should be considered before any such maximum rates can be decided upon; and they believe that until further information shall have been obtained through the intervention of the proposed superintendence, Parliament cannot be in a situation to form a correct opinion upon this difficult and important subject.

In support of this recommendation, that Railway Companies should be restricted to a maximum charge for conveyance, your Committee beg to advert to the supply of the London market, and to direct the attention of the House to the manner in which that supply is collected, conveyed and disposed of; and your Committee cannot avoid remarking, that when the private carriers have been supplanted by the Railway Companies, an important portion of the supply of the metropolis will be left in the hands of these great Companies. It has also been urged upon the attention of the Committee, that the public derive great advantage from the present mode of conveying goods from one part of the kingdom to another, the carrier being responsible for their safe delivery; and it has been stated, that this advantage will be greatly enhanced when the several Railways now in progress shall have been completed, because the carrier will then make his arrangements for the distribution of the goods entrusted to him throughout all parts of the country, and the consigner of the goods need not inquire over how many different Railways his goods are to be conveyed, nor in case of their delay or their loss, need he endeavor to trace out which Railway is in fault; carriers also, in many parts of the country, can convey goods partly by Railway and partly by road, a service which cannot be performed by Railway Directors, unless they engage in a branch of business entirely at variance with their proper duties. In answer to this it has been said that the Railway Companies will form similar arrangements to

those now made by the carriers, and that whenever goods are sent by these conveyances, the Railway to which they were in the first instance committed, must and will be responsible for their due, regular and safe delivery.

Having thus stated the difficulties in which this question is involved, your Committee may here further observe, that different systems are in operation, not only upon the three lines of Railway above-mentioned, but also upon many other lines in various parts of the country; whence it must be inferred that those persons who are best informed on the subject, and most interested in arriving at a correct conclusion, have not yet determined which system will be attended with the greatest permanent advantage. The Railway Directors have not usually kept their accounts in such a form as to enable them readily to distinguish the profits which they derive as carriers from the profits which they receive as toll proprietors, and consequently any accurate comparison of the practical working of these systems, appears at present impossible. With every desire, therefore, to offer a definite opinion to the House, and to point out, in regard to this important question, which system is best calculated to promote the interests of the public, your Committee yet feel that at the present time any legislative interference, for the purpose of preventing Railway Companies obtaining a monopoly of conveyance, or for the purpose of obliging them to undertake the carriage of goods, would be equally objectionable; and they believe that by suggesting the appointment of an authority to watch the different systems practised upon the different lines of Railway, they are recommending the course best calculated to insure the protection of the public interests, without occasioning any ground of alarm to those persons who have invested their property in these vast undertakings, which promise to become one of the greatest improvements of modern times, and to open new sources of wealth and prosperity to the nation.

MAY 14, 1840.

From the foregoing it will be perceived, that the Committee of Parliament are anxious to provide for the security of the public, that protection against the effects of the monopoly which is engrossed by the railway companies, which is already much more effectually provided for in the charters of the Massachusetts roads, to which we have above referred. In all the particulars referred to in this report, it will be perceived that our legislation is far more guarded and appropriate than that of Great Britain.

There are certain other points in regard to the liabilities and rights of parties, on which further experience will show the necessity of either legislation, or a large expansion and application of the principles of the common law, by the decisions of the judiciary. Some of these points we may have occasion to discuss hereafter, and in the mean time we shall watch carefully the proceedings of foreign legislatures and tribunals on these subjects, and shall give our readers the benefit of any thing which may be learned from these sources.

ARTICLE XIII.

ANTARCTIC DISCOVERIES.

An opinion prevailed among the early modern geographers, that a large tract of land existed in the South Frozen Ocean; for they supposed such a continent necessary to balance those known to exist in the northern hemisphere. Their confidence in a theory formed on such weak ground as this, gained strength from the fact, that in 1599 land was actually discovered in this quarter. Dirck Gherritz, a Dutch navigator, who commanded one of a squadron of five ships that sailed from Rotterdam to the East Indies, in 1598, in attempting to pass the Straits of Magellan, was driven south by a violent tempest, as far as 64 deg. of south latitude. Here he discovered land, which he described as a high country, with mountains covered with snow; he coasted it for more than one hundred miles. This discovery, as recorded by him, was subsequently entered on the maps and charts of that part of the world, as late as the end of the last century. Several attempts had been made to re-discover this country, or rather to lay down with accuracy the southern continent, if there were one, none of which had succeeded. Such an attempt was one of the principal objects of Captain Cook's second voyage, in the years 1773–4–5, but he failed of success, a few small islands about 58 and 59 deg. south latitude, and 29 deg. west longitude, being all his discoveries. He expressed himself perfectly satisfied that an antarctic continent existed, but that it was so surrounded by ice as to be entirely inaccessible and uninhabitable. He twice succeeded, in different years of this voyage, in penetrating beyond the 70th deg. of south latitude, but usually uninterrupted banks of ice kept him nearly as far north as the 60th parallel. At times, indeed, in his navigation in these regions, he was almost induced to form the belief that no land existed in the south polar zone, but that an immense mass of ice filled the whole space. His ultimate opinion was that which we have mentioned above.

The result of this voyage was to dispel at once all the dreams which had been before indulged respecting *Terra Australis*, as the imaginary continent was called; which, it had been supposed, would equal in beauty and wealth those already known. It was at once struck from almost all the maps, and at the beginning of the present century, few, if any, geographers had any belief in its existence. Indeed, it was natural that very little curiosity should exist concerning a region, which, if discovered, must prove so dreary and uninviting; for it was not supposed that such a region could furnish any advantages to trade, or any inducements to colonization.

In 1818, however, a discovery was accidentally made, which excited a good deal of interest. The Brig William, Capt. W. Smith, on a trading voyage from Valparaiso to Monte Video, took a much more southern course than usual, her commander hoping by that means to make a more favorable passage round Cape Horn. In the execution of this purpose, he discovered land about 62 deg. south latitude and 60 deg. west longitude. He was desirous at that time to complete his voyage to Monte Video. The next year, however, on a return voyage to Valparaiso, he once more discovered these islands, and coasted them for a distance of two hundred miles, making accurate and extensive observations. He called them the New South Shetland islands.

Although this was only the discovery of a group of small islands, it was at this period one of much more interest and importance than it would have been at the time of Cook's voyage. Since that time, the sealing business had acquired no inconsiderable importance, and all the known land, in high southern latitudes, was visited by vessels in this trade, for skins and oil. The accounts of the New South Shetlands were very favorable for the prosecution of this business in that quarter, and in the year 1820, therefore, a large number of vessels were fitted out to make discoveries in that quarter. In this way the survey of these islands was completed, and a group called South Orkney, about ten degrees to the east of them, was discovered in the beginning of 1821.

About a year after the South Shetlands were seen by Captain Smith, they were discovered anew by an American sealer, Captain Sheffield, in the Hersilia, a vessel fitted out with a view to antartic discoveries. Smith's researches were not made public till a year or two after they took place, and they do not appear to have been known to the American Captain. He surveyed and gave names to the islands of the group, took a cargo of seal skins, and returned to Stonington.

The next year a fleet of five vessels sailed from Stonington to these islands. From an elevated position in these islands, land was discovered to the south, on a clear day, which was subsequently, in the winters of 1820–21 and 1821–22, explored by Captain Palmer, whose name it bears. It proved to be a continent of considerable extent. It was on one of Captain P.'s passages between this and the South Shetlands that, on the rising of a thick fog, he found himself between the two vessels of the Russian expedition of Bellinghausen, who supposed himself sailing in a region wholly unknown. Palmer informed Bellinghausen of his discovery and offered to pilot him into harbor.

Bellinghausen had been sent out, in July, 1819, probably on the reception of the news of Smith's discovery, in command of the Rus-

sian frigates Wostok and Mirni, on an exploring expedition in the high southern latitudes. They passed two seasons in the southern frigid zone. In the winter (there summer) of 1819–20, they attained the latitude of 69 deg. 30 minutes. Here they were intercepted by a barrier of ice which Mr. Simonoff, the astronomer to the expedition, considered eternal, and he takes that occasion to express his belief that the south pole is surrounded by a *cavity of ice (calotte de glace)* a quarter of a mile thick. This year they fell in with no land.

The next season they were more successful. After leaving Port Jackson, in New Holland, the expedition sailed around the pole in an easterly direction, once attaining the latitude of 70 degrees, but usually not much higher than sixty. In the course of this circumnavigation they discovered land the farthest south of any then known. This was an island, which they called Peter Island, in 69 degrees 30 minutes south latitude, 91 west longitude, from Greenwich, and also a coast called Alexander First's Land, along which they sailed for one degree, in the same latitude, and between 73 and 74 west longitude. It should, however, be remembered, that in that latitude a degree of longitude is but twenty-one miles. After touching at the South Shetland islands, the expedition returned home.

During the period occupied thus, the American and English sealers had made discoveries of much greater importance. The South Shetland islands had been immediately visited by them, in search of their prey, and they had prosecuted their trade thither with great success. Palmer's Land, mentioned above, was fully surveyed, and its most important points received names. Of some of these adventures we have full accounts in Fanning's Voyages, published by a merchant engaged in the trade, but there is considerable uncertainty respecting many of the discoveries made in this way, because the navigators in this business have very often desired to keep them secret, preferring to make a large profit from a knowledge of an undisturbed haunt of seals, sea elephants and other such monsters, rather than to lose this advantage by obtaining the honor of discovery. In voyages of this nature all the crew share the profits, in different proportions,—a secret of such a kind is therefore better kept among them than it would be under any other arrangement.

In the beginning of 1823 and '24, Captain James Weddell, who was engaged in the sealing business, made a voyage, remarkable for the high southern latitude which he attained. He crossed in open sea, places where Captain Cook had indicated impenetrable ice, and sailed as far south as the 74th parallel.

In 1829, two Russian frigates made some surveys. They touched at the supposed continent south of the South Shetlands, and called the district they visited, Trinity Land. In the ensuing year, Messrs.

Enderby, a trading house in London, equipped the brig Tula, under the command of Captain John Biscoe, for a southern voyage of discovery. The seal fishery was an object, but only a subordinate one, of the expedition; the Tula being fitted out with every thing requisite for scientific surveys, and accompanied by the cutter Lively. From the Falkland Islands, where the sealing vessels usually touch, before proceeding on their voyages, Capt. B. sailed southeast, touching at all the known islands in that direction till he arrived at the barrier of ice which obliged him to sail in an easterly direction for some time near the 60th parallel. When near the meridian of Greenwich, however, he was enabled to reach the 69th parallel, and near that parallel he discovered, in longitude 43 east from Greenwich, a coast of land which extended about 400 miles. This he called Enderby Land. He had several opportunities of observing it closely, but none of landing upon it. Hence he sailed to Van Diemen's Land to refit. The ensuing season he completed the circumnavigation of the pole, and discovered land, which he called Graham's Land, near which ran a chain of islands, called from the discoverer, Biscoe Islands. He first saw this land in about 69 west longitude and 69 south latitude, and from that point it runs in a northeast direction, and probably connects with Palmer's Land, in the immediate vicinity of which it is. Captain Biscoe landed upon it, and took possession, but was surprised at the entire absence of seals and other animals. From this point he sailed again to Falkland Islands. The Alexander First's Land of Bellinghausen, mentioned above, is not more than 100 miles distant from the western extremity of the coast of this Graham's Land, with which it very probably connects.

In the summer of 1837, the French government despatched an expedition to these regions under the command of M. Dumont d' Urville, who had distinguished himself in previous voyages of discovery. The expedition consisted of the corvettes Astrolabe and Zelee; after touching at Rio Janeiro, it sailed southerly, and having made a thorough survey of a great part of the Straits of Magellan, and the adjacent lands of Patagonia and Terra del Fuego, proceeded to the polar regions, in which it spent the whole of the available season. It attained, however, no higher latitude than 64 degrees. D'Urville met with similar coasts of ice to those described by other navigators, and because he found them in places where Weddell, fifteen years before had not, he suspects the veracity of that voyager. This is very slight ground, and the suspicion deserves no attention whatever. Indeed the conduct of the expedition as given in D' Urville's official report is not such as to increase very highly the reputation of the French Navy. There seems to have been a constant desire to retreat to the north whenever their situation was at all perilous; and we frequently meet with accounts of the "serious

alarm" and despondency of the crews, which must have amounted almost to mutiny ; such as is never met with in the journals of British, (we hope the report of the present expedition may permit us to add, of American) discoverers.

The voyage of this first winter proved almost entirely unsuccessful. The expedition saw land adjoining Palmer's Land mentioned above, which they christened Louis Phillipe's Land, and Joinville's Land. These districts are of very small extent, indeed it seems probable they have been before discovered. From them the expedition sailed northwest, passing the South Shetlands, and proceeding to the coast of Chili. The ensuing summer was spent in the Pacific Ocean.

On the 9th of February, 1839, two sealing vessels belonging to Messrs. Enderby, on a voyage to the islands in the southern ocean, having been instructed to look for land in those imperfectly explored seas, fell in with land in latitude 66 degrees 44 minutes south, and longitude 163 degrees 11 minutes east, having the appearance of three large islands, and several smaller ones, or rocks. Mr. Balleny, the master of the Eliza Scott, one of these vessels, in writing to Messrs. Enderby, says that volumes of smoke were seen issuing from two volcanic craters on the centre of one of the islands. Before discovering the land, the weather being thick so as to limit the view to a short distance, the water bore a dirty appearance and was strewed with feathers. On the second of March they made a second discovery of land in latitude 65 degrees 10 minutes south, and long. 117 east. Mr. Balleny describes the scene of drift ice, field ice, and ice-bergs as the most extraordinary he had ever witnessed, "with evidently land at the back." The ice at the south was in a solid body. There had been a rapid increase in the magnetic variation. Continuing his voyage easterly he met ice on the 23d in long. 93 deg. east.

The Astrolabe and Zelee did not sail into the polar regions in the winter of 1838-9, but in the winter following they renewed their southern explorations in a direction before unattempted. They arrived at Hobart's Town, in Van Dieman's Land, early in December, 1839, and on the 1st of January, sailed for Auckland and Macquarrie Islands, with the intention of advancing as far south as possible, in the direction of the magnetic pole. The first intelligence of an important discovery made by them reached us a few weeks ago, in a letter from an officer of the American navy, dated at Pernambuco, where it was received by an English barque from Van Dieman's Land. The substance of the report thus received was, that the two ships, on proceeding in a southerly direction from Van Dieman's Land, fell in with what appeared to be the coast of a southern continent, which they found completely protected by an icy barrier, extending many miles into the sea, and that they coasted along it for some degrees of longitude, between latitudes 65 and 67 degrees south.

Since the foregoing account was received, a more particular description of the same discovery has reached us from a Hobartstown paper which we copy at large.

"We have to acknowledge the receipt of a French letter, containing a succinct account of the expedition of the two French corvettes, the Astrolabe and Zelee, under the command of Commodore D'Urville, which, from its length, and the late hour at which it reached our office, we are unable to give in type this week. Our readers will be pleased to learn, that the exertions of the French Commodore have been crowned with success. On the evening of the 19th of January, in latitude 66 degrees south, and about 130 degrees east long., land was descried; and on the 21st the two corvettes approached to within five or six miles, and two boats crews put off to collect specimens of rocks from a point which was clear of ice. The land is described as stretching from the south to the W. S. W. as far as the eye could discern. Commodore D'Urville was desirous of continuing his discoveries, but was stopped on the 23d by a bank of ice stretching out from the land directly north to an immense distance, and was consequently compelled to alter his course. The following day the vessels encountered a most furious gale of wind, during which the Zelee very narrowly escaped being wrecked. Further progress was prevented by the fixed ice which hindered any further progress towards the south. Although not much will have been gained by this enterprise in point of utility, it will add greatly to our geographical and scientific knowledge. It does not appear that any living beings or animals exist in these cold and dreary regions; not even a seal was seen, nor any very useful kind of whale. Captain Dumont D'Urville has, by this discovery, earned an additional title to the honors of his country, distinguished as his name has already been in scientific navigation." (The Astrolabe and Zelee had arrived at Hobart Town.)

At the same moment of receiving this account of the French discovery, we are gratified in receiving an authentic account of a still more important discovery, because much more extensive, in the same region, made by the ships Vincennes and Peacock, of the American exploring expedition under Capt. Wilkes. The history of the fitting out and sailing of this expedition is well known in this country. The first winter spent by the squadron in the southern regions was not productive of any discoveries of importance, nor did the squadron reach any very high southern latitude. The following summer was spent by it in surveying the coasts of some of the islands of the Pacific, after which the ships rendezvoused at Sidney, in New South Wales, preparatory to another voyage to the polar regions in the winter of 1839–40. The results of this voyage are thus described in the following article from the Sidney Herald of March 12.

"Amongst the arrivals to be found in our shipping list of this day, is that of the United States ship Vincennes, under the command of Charles Wilkes, Esq. The Vincennes has been absent from this port almost

eighty days, most of which time has been spent in southern exploration, and we are happy to have it in our power to announce, on the highest authority, that the researches of the exploring squadron after a southern continent, have been completely successful. The land was first seen on the morning of the 19th of January, in latitude 66 degrees 20 minutes south, longitude 154 degrees, 18 minutes east.

"The Peacock, (which arrived in our harbor on the 22d ultimo, much disabled from her contact with the ice,) we learn, made soundings in a high southern latitude, and established beyond doubt the existence of land in that direction. But the Vincennes, more fortunate in escaping injury, completed the discovery, and ran down the coast from 154 deg. 18 minutes, to 97 degrees 45 minutes east longitude, about thirteen hundred miles, within a short distance of the land, often so near as to get soundings with a few fathoms of line, during which time she was constantly surrounded by ice islands and bergs, and experiencing many heavy gales of wind, exposing her constantly to shipwreck. We also understand that she has brought several specimens of rock and earth procured from the land, some of them weighing upwards of one hundred pounds.

"It is questionable whether the discovery can be of any essential service to commerce; but it cannot be otherwise than gratifying to Captain Wilkes and the officers engaged with him in this most interesting expedition, to have brought to a successful termination the high trust committed to them by their country, and it is hoped that so noble a commencement in the cause of science and discovery, will induce the government of the United States to follow up by other expeditions that which is now on the point of termination.

"We understand that the Vincennes will sail on Sunday or Monday next for New Zealand, where the Porpoise and Flying Fish will rejoin her, should they have been equally fortunate with their two consorts in escaping from the ice. The Peacock will follow as soon as her repairs are completed; whence they will all proceed in furtherance of the objects of the expedition."

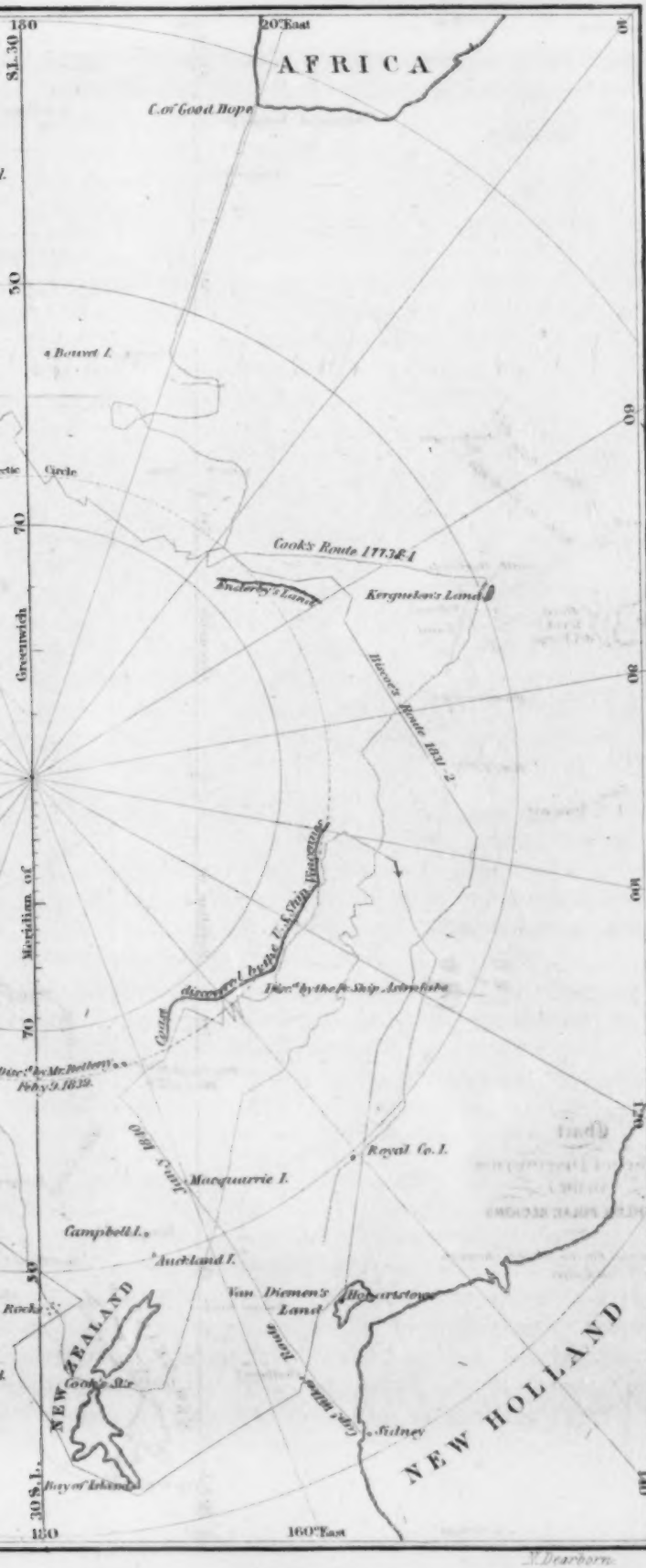
The following letter from the Vincennes, first published in the New York Journal of Commerce, gives some further particulars of this discovery.

"U. S. Ship Vincennes, }
Sidney Harbor, March 12th, 1840. }

"We arrived here yesterday from our southern cruise, upon the success of which we all have reason to congratulate ourselves. We have discovered land within the Antarctic, and cruised along the edge of the barrier ice (seeing the land frequently,) upwards of seventy degrees of longitude. All are convinced there is an extensive continent there. Whether it will be of any benefit to mankind, or not, time alone can show.

"For my part, no inducements could be held out that would make me volunteer to return there, unless one of the other vessels should have been unfortunate enough to be wrecked, which God forbid. We

Trinidad
20° West
Columbus I.
Tristan da Cunha Pk
Gough's I.
New Georgia
Biscoe's Route 1831
Weddell's Route 1823
Falkland Is
S. AMERICA
South Shetlands
C. Horn
Terra
del Fuego
Palmer's
Land
Peter I. Id
Cook's Route 1774
Antarctic
Greenwich
Meridian of
Bounty Rocks
Chatham I.
160° West
Chart
of Recent Discoveries
(in the)
SOUTHERN POLAR REGIONS
Drawn & Engraved for the Monthly Chronicle
July 1840.


AFRICA
C. of Good Hope
20° East
Bouvet I.
Circle
Cook's Route 1773 & 4
Kerguelen's Land
Greenwich
Meridian of
Discovered by the U.S. Ship Vincennes
Discovered by the Ship Adventure
Discd by Mr Bethell Feby 9 1839.
Royal Co. I.
Macquarrie I.
Campbell I.
Auckland I.
Van Diemen's Land
Hobart's Town
Cook's Str
Bay of Islands
Sydney
NEW ZEALAND
NEW HOLLAND
160° East
30 S. L.

were unfortunate in not being able to land, take possession, and plant the stripes and stars. When the weather permitted us to do so, no boat *could* land,—the land being very high, covered with snow, and sloping gradually to the water, where it was terminated by ice, descending one hundred or two hundred feet perpendicularly.

"The weather was, part of the time, good; and part, blowing from fresh to heavy gales, with thick snow storms, making the navigation extremely hazardous, on account of the ice-bergs by which we were generally surrounded. I have at times counted 100 large ones from the deck, without the aid of a glass, taking no notice of small ones.

"We found the Peacock here, repairing: almost a perfect wreck; having had her stern frame lifted, and all the *timbers* broken above the main deck, as far forward as the gang-way, rudder knocked off, forefoot carried away, and planking knocked up to within an inch and a half of her wood ends. How she arrived here, it seems impossible to conceive. I did not suppose a vessel in her condition could hold together long enough to do so. She was caught in the ice, and jammed by the closing of the passage after she went in. I hope that the brig and schooner have escaped, and that we shall find them at New Zealand.

"By an arrival to-day from Hobart Town (Van Dieman's Land) we learn that the French expedition is there, and that they discovered land the same day we did, in 66 south, and 130 east. It is no doubt a continuation of what we saw; and will render the honor of being first, disputed for some time. I do not think they can boast much, as they were satisfied with a single sight, owing to the Zelee's being near lost. *We* have coasted the new continent 1300 miles. We have been very cordially received by the people of this place, and they are determined to have us first whether or no.—We leave for the Bay of Islands on Sunday.

"We expect to be at the Sandwich Islands in July, and again in Jan. 1841. After that, to Manilla for a month or two, thence to Singapore, Angier Point, and Cape of Good Hope."

The following letter, published in the Brooklyn News, is apparently from an officer of one of the other vessels.

"Antarctic Circle,
Long. 160, E. 20th Jan. 1840.

"Here we are at last, surrounded by ice-bergs, as high as the 'main truck.' To-day we crossed the antarctic circle, having sailed from Sidney on the 26th of December. We have come thus far without any accident of consequence, or meeting with any barrier of ice. There seems, however, no prospect of getting much farther in this longitude. We are all blocked up a-head, and we are now steering west in hopes of falling in with an opening. I hope, for the honor of the concern, we may get farther south; but it is too cold to go much farther. One thing is much in our favor—it is, as the saying is, 'all day' with us. The sun set last night at 40 minutes before 11 o'clock, and rose this morning 10 minutes before 2. Day-light did not of course disappear. At meridian, (noon) the sun appears about as large

as a Spanish dollar, and looks much like it in color, and its influence, with respect to heat, is felt as much, and no more, than if there were a lump of ice in its place. I want very much to get far enough south to see the sun the whole 24 hours round. We are now sailing up a kind of channel, both sides or shores of which are ice-bergs, some from two to three hundred feet high. The entrance was truly picturesque. On one quarter are ice-bergs, piled up in all imaginable forms, shapes, and sizes, from 10 feet to 10 miles long. Here comes one, bearing down on us, in the shape of a huge, old, isolated castle, with walls and pillars half fallen down and tottering; here and there an arch broken, or a breach effected by that rude old warrior, Neptune. Here we have one entire, dressed up in all the grand paraphernalia in which the novelists are wont to dress up these interesting old affairs, for the especial edification of the young ladies. Here we see a house, there a church, and in every shape fancy could paint them.

"31*st January*.—This is a proud day for the exploring expedition. At 3 P. M., to our unspeakable satisfaction, we heard the cry of "land ho!" from the "crow's nest." At sunset we were near enough to see the rocks on the beach, backed by a line of mountains, as high, apparently, as the Andes. While we were getting the boats ready for landing, the wind suddenly flew round to the north and east, and blew a hurricane, and of course we had to "put out," where we beat about among the ice-bergs for two days. On the 2d of February, we made the land again, and were a little more fortunate this time, and allowed to run down the coast for some 30 or 40 miles, getting soundings in 18 fathoms water—when, before we found an opportunity to land, we were obliged to put to sea again. On the 10th we made land again, in longitude 100 east, and were more fortunate. On the 21st, we left for the north, thus settling the long agitated question of the South Continent."

The situation of the land in the southern frigid zone, then, as far as discovered, is this.—Three several districts, if we may term them so, of what is probably a southern continent, have been in a manner explored; they are at considerable distances from each other, in about the same latitude. None of them have been found to be terminated by capes, but their discoverers have been obliged to leave them from the nature of the neighboring ice. These three regions are: First, that known in different parts as Palmer's Land, Graham's Land, Louis Phillipe's Land, Joinville's Land, and probably Alexander First's Land. This is situated to the south of Cape Horn, extending from 63 degrees 30, to 69 degrees south latitude, and from 58 deg. west longitude to 15 or 20 degrees west, this difference being caused by the inclusion or exclusion of Alexander First's Land, of which we have spoken above. If we include this, as we should, probably, this coast extends more than 500 miles. The second region is Enderby's Land, nearly south of the Cape of Good Hope, extending from 64 degrees south latitude to 69 degrees, and from

44 degrees east longitude to 58. This coast, as far as discovered, is, as we have said, about 400 miles long. Thirdly, the coast discovered on the morning of January 19, by the United States exploring expedition, and on the evening of the same day, by the French squadron, which lies directly south of New Holland. Besides these, Capt. Biscoe discovered strong indications of land between the meridian of Greenwich, and 10 deg. east, in about 65 deg. south latitude, such as land birds and amphibious animals, but he was unable to sail far enough south to detect it. This region would lie between Palmer's Land and Enderby's Land. There are also Balleny's and Peter islands in the same latitude.

There seem to be strong reasons to believe that these continents are connected. Weddell excepted, no voyager has sailed farther south than the parallel of 70 degrees, he only reached that of 74 degrees; and having nothing therefore to prove the existence of a southern ocean, it is not unreasonable to infer the existence of a southern continent, from the facts, that in a zone surrounding the earth between 65 degrees and 69 degrees south latitude, which zone would be, in round numbers, 9000 miles in circumference, coasts of land extending 2600 miles, have been discovered, and that in the longitude where no land is seen, immense banks of ice intercept the navigation, while it is a fact acknowledged by all the arctic voyagers, that such ice never forms except along the coast, whence it floats to sea. A few years more, we hope, may enable us to decide this problem, and we confidently believe that they will add a new continent to the map of the world—a continent indeed unfit for human habitation—the abode of storms more violent, and cold more intense, even than those which surround the northern pole. The discovery is important, as a geographical problem, curious at least, and destined probably to be not without its uses.

We subjoin a map of the southern polar regions, which will serve to show, at a single view, the extent of these discoveries.

MISCELLANY.

THE BANK OF FRANCE.

The following remarks of M. Thiers on the bill for the extension of the charter of the Bank of France, are interesting as exhibiting the views of an experienced statesman on the subject of banking. The bill proposes to prolong the charter to the year 1867, with the power reserved to the government by a law to suppress it in 1855—the capital of 67,900 shares of 1000 francs each, not to be increased or diminished but by express law.

M. Thiers said—Various reproaches have been directed against the Bank of France. The chief are, that it does not render sufficient service to commerce, that it does not discount paper of sufficiently long date, and that it has not notes enough in circulation. I will not enter into a history of banking matters, but I will observe that nothing is more ancient than the science of banking. The Bank of France from its origin was of great service to the country, for it lowered the rate of interest. Its capital was only 45,000,000 francs; but Napoleon, who had created it, and by applying all that was known in banking affairs, had placed it in the high road to prosperity, having, when at Austerlitz in 1805, learned that it had, through the mismanagement of the Governor, suspended its payments, adopted some very severe measures for the future regulation of the establishment, and raised the capital to 90,000,000f. From that time the Bank has invariably been of great utility, and if in the years 1831 and 1832 it did not actually save the country exclusively by its own exertions, it is impossible to deny that it contributed very much to its salvation. There were days in which the Treasury could not have met its necessary expenditure, if the Bank had not, with the greatest liberality, advanced 130,000,000f. It is said that the Bank will not discount bills with less than three signatures, and that the small traders, in order to obtain the signatures, are compelled to pay a commission to bankers and discounters. Now the Bank Council is composed of thirty persons, viz., a governor, two deputy governors, fifteen regents, three clerks, and a council of discount. Amongst the fifteen regents there are three receivers-general; thus, with the governor and the deputy-governors, there are six members who are not permitted to mix themselves up with operations of discount; the others are merchants of note, who in general inspire sufficient confidence to obtain money at 3 and 3 1-2 per cent., and do not stand in need of assistance from the Bank at 4 per cent. Of the 804,000,000f. furnished to commerce by the bank, in 1838, the members of the council had only 46,000,000f. The council cannot be acquainted with the financial position of all the traders in Paris, who are 34,000 in number, and are, therefore, necessarily compelled to rely on the bankers and discounters, who are the natural medium between the Bank of France and these traders. How would it be possible for the bank to make inquiry as to the solvency of each trader applying for discount, when it is necessary sometimes to decide upon 11,000 or 12,000 bills in two hours. The decision must necessarily be made upon the signatures of the bankers and discounters through whose medium they are presented. If these agents take a commission, they are fairly entitled to do so. The bank has only one rate of discount, but some of the paper presented is of a nature which would justify the demand of a much larger rate, and the intermediate parties who take the risk of such paper upon themselves have surely a right to cover themselves for this risk by a commission. It is proposed that the bank should cash paper at longer dates than those which they now receive; but I think this would be a very injurious innovation for trade. At present it is the custom, and a very good one, to have short settlements;

if the system were to be departed from very injurious results would ensue. As a literary man, and connected with one branch of industry, the book trade, I shall of course not be suspected of intending anything offensive to it; but I cannot refrain from observing that one of the causes of its embarrassments is the long date at which its accounts are settled. There would be another inconvenience, as regards the bank, in extending the date of bills for discount from 90 to 120 days. The bank now realises daily a 90th part of its capital; by prolonging the term for bills to 120 days it would only realise a 120th. I am decidedly of opinion that the bank does well to exact a third signature, and to discount no bills of a longer date than three months. As regards the rate of discount, you cannot fix it by law. It must be left to the judgment of the Bank Council; you will bear in mind that when the bank was created, the interest of money was 15 per cent. It was gradually reduced to 6, then 5, and it is now 4 per cent. It has required a great number of years to do this, it is true; but the delay has been attended with this great benefit, that once reduced, the interest has never been again raised. This has not been the case in England. The bank there reduced its interest rapidly, but it increased it again to 6 per cent., and these fluctuations have been very prejudicial to commerce. The conduct of the Bank of France has been invariably prudent; but at the same time liberal; in moments of crisis it has doubled the amount of its discounts. Other and imprudent banks, which had urged on commerce and industry to excessive speculation, were the first to suspend discounts and to give the signal of panic. In 1830 we had four months of dreadful crisis, and it was necessary to find 50,000,000f. a day for the war department; yet no person doubted the solvency of the bank; and at a moment when the Government could not inspire much confidence, the bank furnished it with 130,000,000f., and saved public credit. M. Thiers then alluded to a suggestion which had been made for entrusting the bank with the collection of the taxes instead of the receivers general, and observed that this would be a very injudicious proceeding, for it would be calculated to detract from public confidence. It was by its independence of the Treasury that the bank inspired confidence, and was enabled in times of difficulty to assist both the Government and the trading interests. He then entered into a general review of the details of the bank regulations, meeting some of the objections which had been made as to the small number of its branch establishments, and the limited extent of its circulation, by observing that it was in all things governed by feelings of prudence, and that it was highly injudicious to urge it on rapidly toward that brilliant but ephemeral existence, which had been seen elsewhere, but which dazzled only to deceive, and assisted only to ruin. He concluded by alluding to the proposal which had been made not to reject the demand for a renewal of the privilege, but to postpone it. This, he said, would expose its shares to an atrocious system of jobbing. They would act wisely to pass the bill, and leave the ameliorations of which the bank was susceptible to the influence of time—the only sure guide in matters of such importance.

STEAM PLOUGH.

The Glasgow Herald gives the following description of a steam plough on a new principle, designed to be sent to Demarara for the cultivation of the sugar lands.

"On Saturday last, April 18, another trial was made on the lands of Possil, near Glasgow, of the new steam plough, intended for cultivating the sugar lands in British Guiana; and unlike the former exhibitions, this was eminently successful. As has been explained in a former notice, the lands in that colony are low-lying, and thickly intersected by ditches or canals; and it is intended that a plough or ploughs shall be placed on the soil between these canals, and be worked by a steam engine placed on a punt or boat, which gives power and motion to a reversing-pully, or endless rope, that will be worked round a drum, placed on a punt in the canal immediately opposite. So far as we can judge, there is extremely little difference between this and Mr. Heathcote's steam plough, exhibited at the Highland Society's show in Dumfries, in September, 1838. The plough intended for British Guiana possesses this advantage, that the moving and resisting power can be easily shifted by a boy simply propelling the punt a few inches forward in the water; in Mr. Heathcote's, the extremity on which the drum was placed, had to be shifted by levers, so often as the tilth was made, and the house containing the engine was moved by the self-contracting of the spars or ribs, of which the outer fabric was formed. This inferred a considerable expenditure of steam-power, which will be entirely husbanded in the plough which has been made by Messrs. Edington, under the direction of Mr. McRae. No one who has seen it in operation doubts the perfect applicability of Mr. M'Rae's plough to the object intended; for, independently of the West India soil being as level as a bowling-green, it is entirely free from stones or hard roots, which would otherwise damage the cutters and render the working of the instrument impossible. This new plough is worked by an engine of eight-horse power; and if followed by others, will supersede manual or peasant labor to a great extent in this description of tillage; and, independently of its intrinsic usefulness, it will have the effect of making the free blacks more reasonable. The engines must be fed by coals carried from Britain. Some time ago, ploughmen, ploughs, and horses were taken out to the West Indies to be employed in this species of labor; but we understand that both horse and man quailed under the burning heat of the climate, and the experiment was in the majority of instances unsuccessful. The first hint of this new machine, however, we consider to belong to Mr. Heathcote; and it is a pity his invention has not been subjected to a wider range of experiment in the bogs of Ireland or elsewhere; for, if we are not mistaken, his plough and apparatus still remain unemployed in Lochar Moss, exactly as it was laid up in ordinary after the great meeting at Dumfries in 1838."

THE WINGS OF ICARUS,

Or, the Provincial in Paris.

[Continued from page 167.]

CHAP. V.

When she married Mr. Piard, a man of the new order of things, a plebian courtier and counsellor of state in the service of the government of July, Isaura de Loiselay, the daughter of an old legitimist emigrant gentleman, found herself placed in one of those ambiguous positions, where, to escape therailleries of the world, one must have a great deal of spirit, of tact and of character—between a father and a husband divided in their political opinions—one very peremptory in his doctrines, the other very obstinate in his convictions, the young woman was at first exposed to play the part of Hersilia between Romulus and Tatius. The sixty leagues which separated D*** from Paris took away, however, all the pretext for dispute, which might have arisen had they had a common residence; for people who are most warlike in conversation, become very pacific in their correspondence; and besides, a father-in-law and his son-in-law seldom write letters to each other. This difficulty surmounted, however,there still remained an embarrassment not less serious.

Between the society in which Mademoiselle de Loiselay had been brought up, and that with which her husband associated, there flowed a torrent swollen by the floods of a recent revolution, and whose intolerant turbulence made it impossible to pass over from one shore to the other. Where should a footing be made, on which side should she fix herself. Between the faubourg St. Germain, and the Chaussèe-d'Antin, it was necessary to choose. Out of ten women having this choice, nine would not have hesitated a single moment; for the aristocratic world exercises over the imagination of new comers into society, an irresistible fascination. Isaura would undoubtedly have obeyed, like the majority, the instinct of vanity, if it had not been for a trifling event which exercised over her conduct a decisive influence.

Some time before her marriage with the counsellor of state, she had confided her plan for the future to one of her boarding school friends, who had herself been married a little while, to the heir of a family of the ancient court. In her answer, the new marchioness thought it her duty to confess to the future citizen's wife, that though she should always regard Mademoiselle de Loiselay as her most tender friend, yet in obedience to the rules of society, those tyrants of the heart, she should find herself forced, to her great regret, to put restrictions on her intimacy with Mad. Piard. This declaration gilded over with protestations of tenderness, made no change in the determination of Isaura, who was twenty-seven years old, and had no fancy for the part of old maid, but it gave her self love one of those sharp wounds, which leave behind them a durable resentment. In her proud simplicity, the young marchioness had spoken of *mesalliance;* Mad. Piard understood the meaning of this superannuated word, which still has its weight. Threatened with abandonment by her old friend, she foresaw the re-

ception which awaited her in the saloons to which her birth invited her, but the sympathies of which were alienated from her by her marriage. She preferred to break, without hope of reconciliation, with the aristocracy, rather than to expose herself to its hostility, or what would be still more cruel, to its toleration. Of this resolution, dictated by a refinement of self love, the young wife had the art to make a merit, for it is the property of skilful minds to color their weaknesses so that they may resemble virtues. On their arrival in Paris, Mad. Piard, on being consulted by her husband respecting the visits which were proper to be made, answered him with tenderness:

"I shall go where you carry me, are you not my lord and master?"

"There is no longer any lord and master under the order of the true Charter," replied the counsellor of state, with an amiable smile; "your family has alliances in the Faubourg St. Germain, and it is very natural that you should prefer the world there to ours. Let my friends receive a polite reception in your saloon, this is all I ask of you, for the rest, form your society as you please, I subscribe to every thing."

"No, my friend," replied Isaura, "I will not abuse a condescension which you will perhaps regret, some day or other. Your position as a political man, has exigencies, to which, believe me, I shall always sacrifice my personal feelings. Intercourse with a society hostile to the government may draw you into unpleasant circumstances which it is my duty to prevent. I have no near relations in the Faubourg St. Germain, and I can without impropriety dispense with making visits there, and even if I should be blamed, I have decided upon not doing it, for your interest should go before my tastes. Thus then, your friends shall be mine, your society mine—I will go no where without you, and I will go with you wherever you wish me to go, even to court."

These last words, imitated from the words of Ruth to Naomi, charmed M. Piard the more, because he had dreaded to find in his wife a proud insubordination, the common dowry of a lady of quality married to a citizen. The husband was proud of a success which he had not dared to hope for, and which in his simplicity he attributed to the love he had inspired her with. The conduct of the young wife was universally approved, and cited as a model of conjugal devotedness. The calculation of a far-sighted susceptibility passed for the resignation of a wise mind; some persons even, discovered in it a real heroism; so much in the eyes of the world, do the sacrifices which are made to vanity seem painful in their accomplishment!

It is difficult to love in others the qualities which one lacks himself, even if the privation were voluntary. The fox who was mutilated in the trap, and who detested the tails of his companions, is the grotesque type of envy nourished by regret. The most impartial characters do not always succeed in rooting out a sentiment which germinates in secret in the soil of every human heart. After his abdication, Sylla would have impatiently suffered a dictator, in the Monastery of Saint Just, Charles fifth reviled the kings who had the weakness to prefer a crown to a tonsure.

Mad. Piard had no sooner proclaimed her design of breaking all relations with the aristocracy, than she began to feel for that class an aversion which a plebeian origin would hardly have excited. Having become a citizen by her marriage, she adopted the prejudices of a citizen with the intolerant fervor which converts are apt to bring into the practice of their new religion. From that time, the absurdity of social distinctions shocked her, she disdained all distinction which was founded on birth, and considered ancestors as very ridiculous things, though she herself had had some of the best. An escutcheon painted on the panel of a carriage, a servant in livery, made her scowl or smile in pity, but above all things the titles of women whom she had known, became the object of her mortal antipathy.

"In France there is no longer any nobility but merit," would she often say.

"A title, however, does not do any hurt, especially in the diplomatic circles," observed M. Piard, who for some time had felt a desire to become a baron.

"Baron!" cried the young lady, when she heard the plan alluded to, "I will never suffer them to make you any thing so ridiculous."

Isaura feared the ridicule for herself a little more than for her husband. The idea of seeing herself elevated to the dignity of a constitutional baroness caused a revulsion in the proud blood which had been transmitted to her through a long line of gentlemen. To mount half way appeared to her to be more mortifying than to remain at the bottom. An officer can without humiliation return again to the station of a soldier, but not of a corporal. The barony then had an absolute veto put upon it, to which the counsellor of state was obliged to submit, though his self love suffered from it.

"I will cause myself to be named commander of the Legion of Honor," thought M. Piard, by way of consolation—"but in truth I do not understand Mad. Piard, a lady of quality, brought up at Sacrè Coeur; I shudder to see what a democrat she has become."

If she had been endowed with a vulgar mind, Isaura would have infallibly justified the fears of her husband, by falling into that childish radicalism of the boudoir which is the customary retreat of women who have more pride than consideration; but the rectitude of her judgment preserved her from such folly. The clamor about the progress of society, the freedom of her sex, and the morality of divorce, inspired her only with the cold disdain with which practical minds receive hollow and inapplicable theories. She admitted to her toilet neither blue stockings nor red caps. Instead of pouring out unskilfully the envy which devoured her heart, she stifled every murmur, and sought the remedy which she soon found. The skilful agriculturist fertilises the most ungrateful fields by adapting the grain to the soil. Mad. Piard applied this method to her own position. Compelled to renounce the golden harvest of aristocratic privileges, she took care not to proclaim her regrets by leaving her life untilled. The soil of her marriage was barren for vanity, she sowed there ambition, a vivacious grain, which shoots quickly and in every place.

"One is born a gentleman, but he becomes an emperor," said she, "M. Piard has no ancestors, it is true, but he has credit, which, after all, is worth more than a vain nobility. To-day counsellor of state, to-morrow he may be a minister, and the wife of a minister sees no one above her but the queen."

The twin sisters vanity and ambition take different methods of advancement; the first mounts on stilts, the second leans on a crutch; for one covets the greatness, the appearance of which satisfies the other. Mad. Piard having become ambitious, adopted the manners of her new passion. Like Sextus Quintus she made herself old, an artifice which must go harder with a woman, than with a priest.—Leaving to frivolous creatures the cares of coquetry, the pretensions to wit, the meditations about the toilet, and all the useless cares which fashion imposes on her favorites, she regulated her habits by a far sighted intelligence, according to the end she desired to reach. She proscribed then, dazzling luxury and picturesque caprice, both equally incompatible with a severe dignity. She had no furniture from Boule, no boudoir ā la Pompadour—no Chinese ornaments, no statuary, no conservatory. no gothic oratory, no plumed *chapeur*, and no grooms in satin vests. Two domestics, dressed like citizens, and of discreet manners, composed all the masculine portion of her establishment, and she contented herself with a single carriage of a sombre color. It might have been taken for the equipage of a dowager retired from the world, it was that of a woman who was marching to the assault of honor.

On her entrance into the society, a little mixed, in which she was henceforth to move, Mad. Piard showed an assurance of manner, which rendered the advice of her husband unnecessary. In the choice of her associates, she consulted utility, not taste. The fashionable belles, the men who were admired, these flowers on the upper stalk, before whom the crowd in the saloons stand with their mouths open, inspired her only with a curiosity mingled with antipathy, which she disguised under an affectation of indifference. Far from striving to gain for herself the success which her beauty would have secured her, she enveloped herself in a reserve which was called pride by some, and prudery by others, and gained something under this double aspect, for if familiarity breed contempt, reserve creates respect.

From her entrance into society, Mad. Piard passed for a woman with an insensible heart, and profound mind, a feminine fame as rare as it is splendid. Without awkwardness, without humiliation, without enthusiasm even, she succeeded in approaching the three or four political women of whom Paris can still boast, stars which under the Fronde or the Directory would have shone with a more lively brilliancy, and which threatened with a total eclipse the unchivalric vicinity of the representative system. In the whirlpool of great intrigues and little affairs, the wife of the counsellor of state found her natural element. At first she was seen, modest and assiduous, revolving about the ruling planets, who in admitting her to their train, opened to her the way; little by little her own particular orb, in its turn attracted satellites; for credit possesses the communicating power of the magnet, and to rub

one's self against power is to acquire it. Companion to the Princess D., a confidant of the Duchess de ***, Mad. Piard could soon play the part of queen on a less elevated theatre. Her saloon, which she was accustomed to open every day, from four to six o'clock, was thronged with courtiers as zealous to address her, as she was to address others in a higher place. Thus at the same time protector and protigee, she was marching with a rapid step to her goal, without even turning aside. Already she had surpassed the hopes which her husband had formed for her. M. Piard had renounced celibacy, because a political man can do nothing without a saloon, and there can be no saloon without a wife. A year had scarcely passed, when he saw magistrates, deputies, peers, members of the corps diplomatique, even ministers take the way to his house, come again and again, seem well pleased there, and finally form about Isaura a coterie becoming more and more compact and important. He understood then the value of the treasure which had fallen to his lot, and his personal ambition drew from that of his wife, new nourishment.

"She is Mad. Roland, with more distinguished manners and religious principles," said he, caressing his whiskers; "with such an ally I must arrive at every thing, especially as the rusticity of good Roland is not my fault. The time of the peasant of the Danube is over. The counsellor of state threw a complaisant look upon his shoes, the polish on which would have scandalized the ancient minister of Louis XVI, then he asked himself, in case a change of ministry should happen, what portfolio would be convenient for him. That of justice, public instruction, or the finances. Having thought the matter over, he came to the conclusion that they would all suit him, and that he was fit for either. As to the political departments, such as the interior and foreign affairs, "We shall see bye-and-bye" said he. "Pitt owed half his success to his patience."

While M. Piard was musing about portfolios, his wife followed with an indefatigable perseverance the work she had so adroitly begun. The swallow building her nest, straw by straw, does not bring more care to the construction of her edifice than did she take to consolidate the nest for her ambition. She associated with but few women; either she found them useless and perhaps dangerous, or a frivolous society had no charms for her serious mind. Poets, artists and romancers, so sought after by matrons, enjoyed with her no prerogative which they could abuse. She received them without seeking for them, for her invariable plan was to give to her saloon a political physiognomy, which a literary coloring would have necessarily changed. On the other hand, men attached to public affairs were received by her with an ardor, in proportion as she expected to make them useful. She was amiable to all, even to the little who might become great. The tedious, finally, shared her smile, for she knew that it is such people who always make their way best.

Mad. Piard gradually acquired over the persons of her regular circle, that ascendency which is rarely refused to a young, pretty, intelligent and artful woman, by men who are harnessed to the car of state. She

prudently tried this power before exercising it. A place in the stamp office, granted on her recommendation to an interesting widow, for whom she cared very little, was the first seed of a chaplet of favors which was soon found as well filled as the rosary of a devotee. Sure then of her influence, she allowed no occasion in which she could make use of it to escape. Places in the departments, military promotions, judicial advancements, all went by her spring. Her credit became an acknowledged thing, and henceforth there was no room for discussion. They can refuse her nothing! This phrase acquired the authority of an axiom in the place in which the wife of the counsellor of state lived.

Such was the position to which by means of spirit, determination and perseverance, Mad. Piard had advanced herself—a species of irresponsible minister, in a mob cap—at the time Victor Deslandes arrived in Paris. We see that between these two beings, before they knew each other, there existed a secret sympathy, like the affinity of the flint and the steel, both hard and cold, but from which yet might spring a flame.

CHAP. VI.

When Victor Deslandes entered the saloon of Mad. Piard, he found there three persons, remarkable for their diversity of character. A deputy of the left centre, who was in the habit of taking his revenge in society, for the silence that he kept in the chamber; an old man in moustaches, decorated with a blue and black ribbon, and finally, a young man, well cravated, spurred, and gloved in yellow, who himself had desired the cross of honor in the office of the national guard. The first was giving a dissertation, the second was listening, the third was looking through his glass at the mistress of the house, who, without appearing to notice this attention, or to pay any great heed to the discourser, was turning over carelessly a pamphlet of M. Cormenin. Though it was not yet five o'clock, she was dressed in a black embroidered satin, a common error made by political ladies in their toilet. These ladies do not understand the grace of an undress, and in their own saloon, seem always as if they were making a visit.

At sight of the young provincial, who came forward to salute her, she laid aside the pearl knife, of which she was making use to cut the leaves of the pamphlet, and lifted to one of her eyes a little quizzing glass. Deslandes bore this examination without losing countenance, bowed with a good grace, and drew from his pocket his letter of recommendation.

"Madame," said he, "I arrived from D*** only a few hours ago; I was not willing to wait until to-morrow before I brought you news from M. de Loiselay."

"A letter from my father," interrupted Mad. Piard, moved to display her filial sensibility, "you will excuse me, gentlemen, it is fifteen days since my father has written to me."

She pointed the substitute to a seat, unsealed the paternal letter, and read it from one end to the other. Turning afterward her eyes to the young man whom it recommended, she examined him anew, and this time it was without the glass. In the exercise of her credit, Mad. Piard had prescribed to herself certain principles, from which she never departed. She never granted her protection to a young man, unless he was young, elegant and well bred. There was in this system no excess of caution, at which scandal could amuse itself. The race of solicitors was innumerable — to prefer rude, unskilful, ridiculous or superannuated candidates, would have been a mark of bad taste, rather than of goodness of soul, for after all, patronage is not charity. Isaura chose, then, her protegees, as a lady considers her partners for a dance. Notwithstanding the old-fashioned cut of his coat, the unfortunate choice of his bronze green gloves, and the fires of a diamond pin, which shone magnificently from the bosom of his shirt, Deslandes passed this examination, to which he was put without his knowledge, very much to his advantage. He had a provincial air, but an agreeable physiognomy, an expressive eye, a good figure, white teeth, in a word, he had the materials of which a gentleman might be made, in whom one could take an interest. Having approved the outside, it remained to study the intellect. In such a case, the patroness was never embarrassed. The first incident which happened served her for a touchstone, and if none presented at once, she contrived to create one, applied it to her trial, and however strange it might appear, judged without hesitation, and never changed the opinion thus formed.

After some questions about M. de Loiselay, and the persons of her acquaintance whom she had left at D***, Mad. Piard rendered the conversation general, by addressing the young man in the red ribbon.

"Apropos," said she to him, "have you disposed of all your ball tickets?"

"Yes, madame," replied the officer of the staff, smiling agreeably, "and even if you could give me a couple more, I could make use of them."

Mad. Piard took from a little table placed before her, a bundle of tickets, some green, the others red.

"Colonel Dniefkserski," said she, showing them to the old man, "you see that we do not forget your heroic fellow countrymen. Our ball will, I hope, result in the relief of more than one noble unfortunate. According to all appearances it will be more numerously attended than that of last winter; for my part, since the day before yesterday only, I have disposed of more than a hundred tickets."

The Polish refugee bowed in silence; if he had wished to answer, the deputy of the left centre would not have left him time.

"Poland is the France of the North," cried the latter, with a pathetic tone, "the system which has allowed her to fall under the strokes of the autocrat, cannot free itself from this foul shame. What was necessary to save her? a hundred thousand men over the Rhine, not more. But let us have a truly patriotic ministry, and we shall see Polish nationality arise from its ashes. For my own part, I consider

this a sacred question. To be sure, I am in the habit of watching the budget pretty closely, and not allowing the money of our tax payers to be thrown out at the windows, and yet let them ask for a hundred millions for Poland, and I would vote for it to-morrow."

"If that be the case you will give me twenty francs for our subscription," interrupted Isaura, at the same time presenting the deputy with one of the green tickets.

"Am I of a dancing age?" answered the chosen of the nation, without holding out his hand; "with my gray hairs I should be ridiculous in a quadrille. The ball room is the place for the beauty, the Chamber for the deputy."

"And the pocket for money," said the officer, with an air of raillery, at the same time taking from his purse two gold pieces, which he laid on the table in a delicate manner, and received in exchange the two tickets for which the deputy manifested so little desire.

"And you, sir, have you also gray hairs?" asked Mad. Piard, compressing her lips, while she looked at Deslandes with a scrutinizing air.

Although not a very keen observer, the substitute was endowed with considerable intelligence, which was sharpened with the desire of success. Resolved to please her whom he considered already as his patroness, he took care to let no occasion escape. His vanity, too, which was piqued at the ironical smile which he saw playing about the lips of the staff officer, would have been sufficient to excite him to an act of munificence, even if his interest, well understood, had not prompted him to it.

"Madame," replied he, "I have at Paris several friends, who will be undoubtedly happy, like myself, to take part in an honorable action, and at the same time have the pleasure of good company. Shall I have the boldness to ask you to allow me to become your debtor until the evening, and let me take ten of these tickets."

He knows something of life, thought Mad. Piard. He expresses himself in good terms,—he only wants a tailor to make him quite presentable.

Deslandes understood that to take his pocket book, filled with bank bills, from his pocket, to lay one upon the table, and wait for his change, would have been as ridiculous, as the action of the young man in the red ribbon was natural; besides, the short delay which he requested, offered him an occasion to write a letter, and in which he promised himself to show more spirit than it was possible to do in a first visit.

Thanks to Poland, the ambitious substitute obtained a first success, of which he was assured by the affable smile which animated the cold physiognomy of Isaura. This smile, to be sure, cost him two hundred francs, but as he recalled the instructions of M. de Loiselay, he thought he had not paid too dear for it.

It is money placed at great interest, said he to himself, putting the ball tickets into his pocket. I see that she takes my gallantry in good part, and then Blondel, who knows all Paris, will help to rid me of this cargo.

The door of the saloon opened at this moment, and gave passage to a man of fifty years of age, middling height, inclined to corpulency, whose plump and highly colored cheeks, formed a contrast with the innumerable threads of silver mixed with his hair, which had been originally brown, and which he wore very short, to lessen the show of this patriarchal alliance. This fresh old man was dressed in a black costume, which covered a frock coat of a lighter color. He held under his left arm, a violet colored morocco portfolio, clasped with silver, and the rosette of the legion of honor was seen repeated at the button holes of his double dress. At his appearance every one arose, with the exception of the mistress of the house. He approached the fire-place, gave his hand to the deputy, saluted familiarly the Polish colonel, imperceptibly scowled at the sight of the staff officer, and rested his eyes finally upon the substitute, with an air which seemed to say, "and who are you?"

"My dear," said Mad. Piard, addressing the new comer, "this is M. Deslandes, from D***. He has been so kind as to bring me a letter from my father."

The counsellor of state answered by a slight inclination of the head, the salute which was addressd him by the young provincial, and taking immediately the proud manner which seemed to be natural to him:

"And how is M. de Loiselay?" asked he with a smile of mockery. "Does he still like chess, and is he still awaiting the return of Henry Fifth?"

"M. de Loiselay is constant in his tastes as well as his rights," replied Deslandes, who was much displeased at the imperial manners of the counsellor of state.

The conversation became general. After a few moments the deputy and the officer retired. The old Pole soon imitated them, and Deslandes remained alone with his hosts.

"My father writes me, sir," said Mad. Piard, "that the delights of my native city have not succeeded in fixing you there."

"Three years ago my conduct would have been inexcusable," replied the substitute, alluding to the epoch when Isaura was still residing under the paternal roof.

"I am making you no reproach," answered the young lady. "D*** is really more tiresome than it is allowable for a little city to be, and I understand the spirit of emigration which seems to be propagated among its inhabitants. Do you mean to remain in Paris?"

"I desire it more than I dare to hope it," replied Deslandes in a modest tone.

"One should always hope what he desires," said Isaura, with an encouraging smile.

"I shall hope it, then, madame, since you do not see too much presumption in the wish."

"To succeed, one must do still more."

"What must he do, madame?" asked the substitute.

"Work at what he hopes," said Mad. Piard in a sententious tone.

A message from the Duchess of *** interrupted this dialogue. The case was urgent and the subject grave. It concerned the place of a sub prefecture which was solicited at the same time by the two friends. For the first time, Mad. Piard, freeing herself from a patronage which weighed upon her vanity, had dared to cross in an intrigue, her political superior. Reprimanded for this temerity, threatened with disgrace by the haughty grand dame whose note seemed written with the pen of Beaumarchais, the wife of the counsellor of state acknowledged with a sigh the anger to which she was forced to submit, or shake her credit, which was yet hardly established.

The party is too strong, said she to herself, crumpling in her hand the letter of the Duchess,—her impertinence must triumph. Ah, well, let her triumph; by and by, perhaps, she may find out that I am not to be offended with impunity.

At this moment Deslandes did not exist for the proud woman, who a moment before seemed disposed to hear him with complaisance. Absorbed in the little humiliation to which it was necessary to submit, she retired into the next room to write to the Duchess, and returned with a distracted air the bow of the young provincial who was a little disconcerted at this unexpected departure.

Alone with the master of the house, who until then had affected to take no part in the conversation, and had remained seated in his chair in a magisterial attitude, Deslandes felt an involuntary embarrassment which he endeavored to surmount. To retire immediately would have been awkward; to maintain silence opposite a man who seemed to have made an oath not to break it himself, seemed ridiculous; at any price, he must speak. Secretly vexed at the coldness with which he had been received, and the disdain mingled with ennui which was expressed in the face of his host, the substitute called to his aid dissimulation, the patroness of the ambitious. He smiled by way of exordium, while he racked his brain to discover a subject for conversation. Some pictures with which the saloon was decorated finally gave him the word for which he was seeking.

"M. de Loiselay," said he, with an insinuating tone, "has in his cabinet several Flemish canvases, which he values highly, but I would not advise him to expose them here. Here are two or three *morceaux*, the neighborhood of which might diminish their value. This Adoration of the Magi, among others, is altogether in the style of the Venetian school."

In praising in this way a picture of a class more than *mediocre*, Deslandes fancied he had reached the very limit of decent flattery. He soon found out his error.

"It is very natural that a Giorgione should remind you of the Venetian style," answered M. Piard, with a sort of sneer.

This plate of Spinnage, a Giorgione, thought Deslandes, drawing near to the picture. He looked at it for some time, with an affected avidity, and appeared to pass, by degrees, from astonishment to admiration.

"It was in a cross light and I did not see it well," said he, returning toward the counsellor; "now I discover the touch of a master. That is signed Giorgione at every stroke of the pencil."

"It is, in fact, a chef d'œuvre," said M. Piard. "This Holy Family is by Sebastien del Piombo; this Landscape, by Gaspre. This Marriage of Thetis is attributed to Espagnolet, but I rather think it belongs to Luca Giordano, who excelled in copies, and who would have wished to imitate the manner of his first master. Here is a Saint Stephen, by Hannibal Carraci. There is not here a single piece, which is not worth alone, all the pretended Van Vosts, and the apochraphal Terburgs of M. de Loiselay, which, between us, are nothing but daubs."

As is the father so is the son-in-law, thought the provincial, who, however, abstained from manifesting any doubt of the authenticity of the pictures pointed out to his admiration. He allowed himself to be led in succession before each of them, and though saying to himself, that he was only a servile flatterer, he praised them all, was in unreserved ecstacies, and allowed himself but one critical remark. This was on the subject of the Holy Family, attributed to Sebastien Piombo, and in which he pretended to discover the manner of Michael Angelo. This conjecture brought to the lips of its owner a smile full of amenity.

"A Michael Angelo, when the museum does not possess a single one! This would be too magnificent," cried he, "meantime your opinion has nothing inadmissible. I should never have supposed that there could have come from D*** a person capable of forming so good a judgment of painting as you do. Are you an artist! sir!"

Notwithstanding his love for the fine arts, Deslandes was but moderately flattered at this supposition.

"I employ myself, it is true, with painting, in my leisure moments," replied he, "but I have no right to the title of artist. I am a magistrate."

"A judge?" asked M. Piard, with a quick manner.

"Substitute of the king's attorney."

"How then, so near the Easter vacation, can you be absent from your court?"

"It is the first absence I have asked, and I hope it will be the last. I think of giving up my office."

Deslandes, to whom the conversation was becoming very interesting, looked in the eyes of his companion for the effect which the mention of his resignation might have. This word is apt to seem monstrous in the eyes of a man in office. The counsellor of state did not frown.

"You mean to live upon your income," said he, coldly. "It is a very wise choice—happy he who can make it and remain faithful to it. A yoke, even of gold, is heavy to bear. I know something of it myself. There is not a day when I do not exclaim with the poet:

> 'O rus, quando ego te aspiciam, quando que licebit
> Nunc veterum libris, nunc somno et inertibus horis,
> Ducere sollicitae jucunda oblivia vitae?'"

Men who, with the serious affairs in which they are employed, mingle some literary pretensions, think themselves, in general, obliged to

display a tender regard to Horace. He is their poet, if we must believe them, as Tacitus is their historian. In conformity to this usage, sanctioned of late by a royal authority, M. Piard had furnished his memory with a hundred verses from the latin poet, with which he willingly embellished his conversation, little apropos as it might be at times, and as it happened to be just now. He did not mind.

"I have expressed myself ill," observed Deslandes. "My fortune does not permit me to enjoy the happy leisure which Horace envied. If I decide to give in my resignation, it is in the hope of entering a new career, more in conformity to my taste. Judicial labors, at least in the lower stages, require an aridity which repulses me, notwithstanding myself. It seems to me, perhaps I am under a delusion, that I may find at Paris, the means of applying better my zeal and the acquirements I may possess. M. de Loiselay, to whom I have made known my plans, and who has given me some encouragement, has made me hope, sir, that in what I am going to undertake, you will not refuse me your support."

While the substitute was speaking in a gentle tone, selecting every expression with as much care as if he had been in court, the face of the counsellor of state grew dark by degrees. It is not, perhaps, useless to explain the cause of this change.

For some time past, M. and Mad. Piard had ceased to be of one mind respecting the line of conduct adopted by his young wife.

"In consequence of putting your influence at the service of the first comer," said the husband, "you use it so much that there remains nothing more for ourselves. You make prefects, even bishops, and I suffer insurmountable difficulties in passing from the contests of the bar to the power of the court, which, however, it is necessary I should reach if I wish seriously to obtain a political footing. I am sure only in the tobacco offices, the demi purse, justices of the peace, and country offices, while you have already obtained the money of a minister, and the minister of what? Perhaps the place that of right should be mine—you suffer the corn to be eaten up in the blade by this swarm of hungry people by whom you are surrounded."

To this Mad. Piard answered sententiously, that credit resembles health, which is strengthened by exercise, and does not suffer from it. Forced to submit to this maxim, without being convinced of its justice, the counsellor had sworn to the solicitors whom he saw multiplying about his wife, the hatred which a farmer feels to the rabbits who eat up his garden. Every new face which he saw in his parlor, increased his ill-humor, which did not always keep within the bounds of politeness. From this cause, Deslandes had given him a disagreeable impression, which had partly worn off during the examination of the pictures, but which was revived by the last words of the young substitute. After having listened to them with a frozen air, M. Piard leaned his back against the chimney, crossed his hands behind him, and proceeded with a decided tone.

"Sir," said he to Deslandes, "I must take the liberty to make some observations upon what you have just said to me. In approving your

plan of giving up your profession, in order to embrace a new one, it seems to me M. de Loiselay has shown but little prudence. This does not surprise me, for my father-in-law belongs to a class which has never been brilliant in its powers of understanding either things or men. I must rectify the ideas which you may have imbibed in his school. Of all the services which I might render you, this may not be the least useful, if you will take heed to it. Do you call judicial labors dry? but what path is strewed with roses, especially at its entrance. See the military profession, the administration, the bar, medicine, literature, every where there exists for beginners, an apprenticeship, at least, as painful as yours. At the first moment of fatigue, must one be discouraged? Obeying a capricious *ennui*, must the soldier become a lawyer, the physician a man of letters? No, sir, no; it is in the nature of man to be discontented with his position—to envy that of his neighbor:

"O fortunatos nimium, sua si bona norint agricolas!"

says the poet. In France, especially, this sad mania has got to be a scourge. At this moment, society is a prey to an evil which itself alone will, in the end, annul the ameliorations due to the triumph of the democratical principles of which it is an appendage. This evil is an unrestrained ambition, which has penetrated all classes, where it excites a continual and ineffectual fermentation. Now, before a young man is out of college he asks for an office. Paris is inundated with young men who want to be prefects, or secretaries of embassies; the most modest ask to be masters of request, at the first leap. This shocks me, sir, and I feel that I ought to show you the absurdity of all these pretensions, which have no foundation, except in vanity and incompetency. As to yourself, who are in a very different category, since you are exercising an honorable employment, believe me, renounce a project from which you will probably reap nothing but misunderstandings and deceptions. Instead of running the chances of the sad part of one who solicits a place, return to your court, overcome the disgusts which never fail to yield to a habit of study,—labor—fulfil your duties, not only with regularity, but with ardor,—in a word, make yourself distinguished. To do this, here is the most infallible means, M. de Loiselay notwithstanding."

M. Piard accompanied these last words with one of those little salutes with which the mighty of the earth mark the end of the audience they have deigned to grant. Seeing that the substitute, stunned with an harangue which ruined at a single blow all his Spanish castles, made no sign, either of answering or leaving the apartment, he saluted him again in a still more significant manner, took from the table the portfolio he had deposited there, and glided to a door, through which he disappeared.

CHRONOLOGY.

May 28. The following literal bequests to several benevolent associations of Boston, by Mrs. Ann Lee, have been recently paid by the executors of her will. Mrs. Lee was the widow of the late John M'Lean whose munificent bequests to the Massachusetts General Hospital, and to Harvard University, are well known.

To the Union Church in Essex street, for the benefit of the poor of said Church, $2,021.41; To the same, as a provision for the families of deceased Clergymen of said Church, 2,000.00; To the Boston Asylum for Indigent Boys, 500.00; To the Penitent Females' Refuge, 500.00; To the Mass. Convention of Congregational Ministers, 1,000.00; To the Mass. Missionary Society, 500.00; To the same, as residuary legatees, 2,905.92; To the American Board of Commissioners for Foreign Missions, 500.00; To the same, as residuary legatees, 2,905.91; To the American Education Society, 1,000.00; To the Widow's Society, 500.00; To the Howard Benevolent Society, 500.00; To the Fragment Society, 500.00; To the Society for promoting Christian Knowledge, 1,000.00; For the distribution of fuel to the poor, 1,000.00; To the Fatherless and Widows' Society, 1,000.00; To the same, as residuary legatees, 2,905.92; To the Evangelical Tract Society, 500.00; To the Society for the moral and religious instruction of the Poor, 2,905.91. Total, $26,645.07.

June 10. One of the steam ships directed by an act of Congress to be built for the U. S. Navy, is now on the stocks at the Philadelphia Navy Yard, on the spot lately occupied by the ship Pennsylvania. The Philadelphia Inquirer gives the following account of the progress of the work. About 45 carpenters are now engaged upon her.

Her length on deck, - - -	227 feet.
Extreme breadth, - - - -	40 "
Depth of hold, - - - - -	23½ "

Her two engines will be of 225 horse-power each, and of the same dimensions as those of the steam ship Liverpool. The constructors are Messrs. Merrick & Town, of the Southwark Foundry. The cylinders are already cast, the boilers about two-thirds finished, and the work has considerably progressed in other respects. Most of the important part of the frame work of the steamer, is of live oak. She will in all probability be launched next spring. One of similar size and model is now on the stocks at New York. She is calculated for about two hundred men, and will draw 18 feet 4 inches water. She will carry fuel (coal) for twenty days. On launching her it will be necessary to take down the immense shears that were put up for masting the Pennsylvania, which stand immediately upon the wharf, and lean over the Delaware. In the structure of this single vessel, there will be used—

Iron, - - - - - -	220,000 lbs.
Copper, - - - - -	156,000 lbs.
White oak and yellow pine, - -	65,000 cubic ft.
Live oak, - - - -	17,000 "

Her cost is estimated at $400,000. Some idea of the wood known as live oak, may be formed, when we state that it weighs about 80 lbs. to the cubic foot. The white oak weighs from 50 lbs. to 54 lbs. Most of the live oak that is used in our various Navy Yards, is brought from Florida. A large quantity has been received at the Philadelphia Yard within the last few weeks.

The Yard already contains live oak for the frames of two frigates, two sloops of war, and one steam-ship, in addition to large quantities of promiscuous timber. There are in all, 170 mechanics and laborers engaged at the present time in the Yard, and likely to continue in employment throughout the summer.

June 13. A new variety of the strawberry, called *Hovey's Seedling*, obtained the prize at the rooms of the Massachusetts Horticultural Society, for the third year in succession, in competition with fine specimens of the Methuen, Keen's Seedling, Downton, and other varieties. This variety originated in 1835, and its success is considered as having established its superiority over every other variety cultivated in this country. It belongs to the class denominated the Pine Strawberry, and is scientifically described in the July number of the Magazine of Horticulture.

June 14. The Aqueduct across the Mohawk, for the enlarged track of the Erie Canal, about 7 miles from the city of Troy, is now in the course of construction. Its length will be 1150 feet, and the number of piers by which it will be supported, thirty-five. The piers are now building, and are constructed in the most durable manner, of blue lime-stone laid

in hydraulic cement. The new Aqueduct runs parallel with the one now in use, and at the distance of a few feet only. The contrast between them is very apparent. The old Aqueduct constructed of small stones and patched up with plank and timber, seems almost upon the point of crumbling into fragments; while the new one presents a model of strength and durability. The estimated cost of the Mohawk Aqueduct, was $500,000.

June 15. The U. S. frigate Columbia arrived at Boston, on the 13th, and the corvette John Adams, to-day, from a cruise around the world, and last from Rio Janeiro, after an absence from the United States of more than two years, having left Hampton Roads on the 6th of May, 1838. During that time they visited Arabia, India, Ceylon, Sumatra, China, the North and South Pacific Islands, and South America on the East and West. The voyage is said to have been one of great variety and interest. A number of missionary stations of the American Board of Foreign Missions were visited, and the benevolent purposes of the missionaries encouraged by the general commendation and approval which the officers of the squadron manifested towards the missionaries themselves; who, in return, every where tendered to the officers a welcome and hospitality—and the missionaries, on visiting the ships, were always received by the officers with attention and courtesy. Midshipman Robert S. Morris, attached to the John Adams, was left at the Sandwich Islands, in one of these missionary families; and being in a decline, and soothed by the kind attentions of this family, he breathed his last among friends, though afar from kindred. He now sleeps in that lovely Isle of the Seas, instead of coursing the deep tide of the ocean. Dr. and Mrs. Judd were the friends with whom young Morris was left; and he died with a resignation that springs from a hope that his spirit was reconciled to God through a Redeemer.

The Columbia and John Adams left Callao, March 9, and Rio Janeiro, May 6. The Columbia has lost seventy-seven of her crew during her cruise, chiefly of dysentary, which made its appearance during her visit at Hong Kong Bay, in China. The John Adams has lost, besides Midshipman Morris, twenty-three seamen.

June 16. Arrived, at Norfolk, U. S. ship Lexington, Capt. John H. Clack, 98 days from the Pacific (Valparaiso) and 45 from Rio de Janeiro. She left at Callao, Feb. 6, U. S. frigate Constitution, Com. Claxton, officers and crew all well; about to sail for Valparaiso via Talcahuana, from thence to Sandwich Islands. The U. S. sloop St. Louis, Commander Forrest, had arrived upon the coast, and had sailed (conveying despatches) for Panama. The U. S. schr. Shark, Lieut. Commd't Bigelow, had also arrived.

The Lexington has been absent nearly three years, having sailed from Boston, 20th August, 1837, during which time, she has run over 56,000 miles, and has been 516 days at sea, cruising and touching at the different ports of Chili, Peru, Colombia, and Mexico, crossing the equator four several times, exposed to a variety of dangers and vicissitudes, without having lost a man by accident or casualty. Her arrival upon the coast of Mexico, in Sept. 1838, was hailed with joy by those of our countrymen whose interest and possessions were upon the eve of being sacrificed to the pillaging propensities of the redoubtable and notorious General Urrea, of Texan memory. His plans were thus defeated, and the rights and property of our citizens secured, the vigorous measures pursued by Captain Clack rendering all subsequent attempts useless and abortive.

The loss of the Sea Gull and her unfortunate officers and crew are placed beyond the possibility of a doubt. A careful survey of the Island Diego Ramirez, (upon which she was supposed to have been lost) and a close examination of all points contiguous, with the usual signal, of relief being at hand, manifested, too clearly shows, that the worldly sufferings of those attached to this ill-fated vessel are forever at an end.

June 18. Ship Arab, of Boston, with a cargo of about 2000 bales of cotton, and nearly ready for sea, at Mobile, took fire in the evening and was entirely destroyed. The fire originated from spontaneous combustion from the slush and grease used by the stevedores in screwing in the cotton. Accidents of this sort, it is stated, have frequently occurred. For the prevention of them, the use of soft soap instead of grease is recommended.

June 18. At night, arrived, at New York, steam-ship Great Western, in 14 and a half days from Bristol, which place she left at one o'clock on the 4th. She made her last outward passage from New York, in 14 days, having left New York May 9, and arrived on the 22d. The Great Western brought out Mr. Bacourt,

the New French Minister, and also a British Messenger with despatches, containing an acceptance of a proposition of the American Government, for a new commission for the settlement of the Northeastern Boundary.

A contract has been made by the government for an acceleration of the mail conveyance between England and India, by steamboats, by way of Gibraltar, the Mediterranean, Alexandria, and the Red Sea. The vessels for Alexandria are to be of not less than 400 horse power. The contract has been obtained by Messrs. Wilcox & Anderson.

The new steam ship Oriental (lately known as the United States,) of 1500 tons and 450 horse power, will, it is expected, start from Portsmouth or Southampton on the 1st of August, and arrive at Alexandria on the 14th; and vessels of this size and power will thenceforward continue to depart on the 1st of every month, and arrive with the homeward mails about the 7th or 8th of every month.

June 20. The Committee of stockholders of the Bank of Virginia, appointed to examine the condition of the Bank, consequent upon the defalcation of the teller, Dabney, have reported that the deficit in the cash of the first teller, amounts to the sum of $544,116 47. It was preceded by over-drafts early in the year 1838, on the account of Merrill and Green, which amounted, from the 22d to the 26th Sept. to the sum of $38,141 04. These over-drafts had been partially concealed by a false balance brought forward to the credit of the account.

June 24. The 400th anniversary of the invention of the art of Printing was celebrated in Boston, and in other places in the United States. In Boston the day was observed by Printers and persons engaged in the subsidiary arts, Book-Binders, Type Founders, &c., as a general holiday, and the daily journals of the evening and following morning were not issued. About 400 members of the same trades dined together in Faneuil Hall. Mr. Buckingham presided at the table, and the occasion was enlivened by appropriate toasts and speeches from the chair and many of the guests.

June 25. A bill to establish a uniform system of bankruptcy throughout the United States, which had been under debate for many days in the Senate, was read the third time and passed by a vote of 21 to 19. On the preceding day it was passed to the third reading by a vote of 24 to 23.

June 30. The bill to provide for the collection, safe-keeping, transfer and disbursement of the public revenue, commonly called the Independent Treasury, or Sub-Treasury Bill, which had previously passed the Senate, and had been a long time under debate in the House of Representatives, passed the House by a vote of 124 to 107. Six members were absent, four of them from sickness, and there were four vacancies, three by resignation, and one by death. It was understood that of the eleven members originally elected, including the Speaker, who did not vote on the bill, seven were opposed to it, two, including the Speaker, were in favor of it, and the two others, had they voted, would probably have voted against it.

July 1. The New York Express publishes the following information from Central America. Messrs. Stephens and Catherwood, the former well known throughout this Republic, as the Charge d'Affaires of the United States to Central America, and who during a residence of six months, has by his urbanity and gentlemanly deportment, won the confidence and esteem of every citizen of Central America, have recently made a visit to the ruins which exist in Quiragia, and intended also to visit Quiche, and then to pass to the ruins of Palenque, in the province of Chiapas, in Mexico. These gentlemen manifest a great passion for whatever objects belong to antiquity, and are unceasing in their diligence; and seem willing to make every sacrifice to gain information regarding the early history of this country, and we do not doubt that in their recent exploration, they have encountered curiosities, &c. in this country, which will cause Central America to occupy a distinguished position among historians, and afford Mr. Stephens ample materials to fill his journal, details of which will be sought for with avidity by every lover of nature and art.

The following are their discoveries made in Quiragua.—One statue 10 feet high, lying upon the ground. One ditto 10 1-2 feet high, lying upon the ground, face looking towards the heavens. One do. 26 feet high, inclining similarly to the steeple or tower at Pisa. A monument 23 feet high, perpendicular, in the form of an obelisk, full of hieroglyphics, with a human statue cut upon the top, and having some figures in its hands. Another statue 9 feet high, representing a woman. One other statue 19 feet high, representing on one side the figure of a woman, on the

other a man, in good preservation. Another, the head of a giant, 6 feet in diameter. Two altars most elegantly sculptured. One obelisk, 12 feet in height. Four other monuments in distinct places, one of which is of a circular form, and upon a small eminence formed of stones apparently brought from the river. In the centre between these four monuments, there is a huge round stone, which is wholly covered with hieroglyphics and inscriptions; neath the stone is two human heads, covered nearly with vegetation, upon which the stone rests.

The above monuments are found about 3000 feet from the river Montagua. The time of Messrs. Catherwood and Stephens being short, they were unable to make more discoveries in that place; but they are satisfied that these monuments,&c. can be removed and taken to the U. Sates of America, which is their intention; while those of Palenque are so far in the interior, it would be impossible to remove them. We also learn that the human figures, and the ornaments which appear about them, are all similar to those of Palenque. In fact, this we consider only as a prelude to what we shall expect from these distinguished, persevering and scientific travellers.

We learn that these gentlemen will continue their journey, and after their visit to Palenque, will proceed to Mexico.

July 1. The opening of the New Bedford and Taunton rail-road was celebrated by a large party on the invitation of the directors. The guests from Boston and vicinity were conveyed from that city, in the cars of the company, over the Providence and Taunton branch rail-road, to Taunton, where they were met by the guests from New Bedford. The two trains then proceeded over the road now for the first time opened for use, to New Bedford, where a very handsome entertainment was given in the new Town Hall, at which there was an interchange of sentiments appropriate to the occasion. The Hon. Joseph Grinnell, the President of the rail-road corporation, presided. On the close of the convivialities of the day, the guests from Boston were re-conveyed to that city, passing over the 20 miles to Taunton in 38 minutes, from Taunton to the Providence road at Mansfield, 11 miles, in 22 minutes, and from Mansfield to Boston, 24 miles, in 49 minutes.

July 3. The charters of the five banks of the District of Columbia being about to expire this day, and a bill for an extension of them for a period of two years, which passed the House of Representatives, not having passed the Senate, a bill was introduced, which, by a suspension of the rules, passed through both Houses, and received the signature of the President, to continue the charters for the purpose of enabling them to wind up their concerns, but for no other purpose.

July 7. In the House of Representatives, the bill to establish a uniform system of bankruptcy throughout the United States, which had passed the Senate, was taken up on its second reading, and on motion of Mr. Pickens, of South Carolina, was laid on the table, by a vote of 101 to 89.

July 9. News is received of the return of the U. S. ships Vincennes and Peacock, of the exploring squadron, to Sydney, New South Wales, on the 22d of February and 11th of March, from a cruise within the antarctic circle, in which they coasted along an extensive ice-bound shore before undiscovered. The Vincennes was to sail on the 16th for New Zealand. The gentlemen of the scientific corps had previously proceeded thither where they would be occupied in a new field of inquiry until the arrival of the squadron there. Capt. Wilkes expected to find the Porpoise and Flying Fish at New Zealand. A New Bedford whaling ship, which has arrived at New York, reports that he left the schooner Flying Fish, commanded by R. F. Pinckney, Lieut. Commandant, at the Bay of Islands, March 25. Having cruised south and west, after separating from the squadron, and after encountering severe weather and much ice, she turned towards the north, and arrived at the Bay, the officers and crew all well. The members of the scientific corps were at the Bay, awaiting the arrival of the squadron there. The brig Porpoise had not been heard from.

July 18. At 7 o'clock A. M., arrived at New York, the steam ship British Queen, in sixteen and a half days from Portsmouth, whence she sailed July 1. She made her last outward passage to England in fourteen days and four hours.

July 18. At 10 o'clock in the evening arrived in Boston, the steam ship Britannia, Lieut. Woodruff, of the Royal Navy, in fourteen days eight hours from Liverpool, whence she sailed at 2 o'clock P. M. on the 4th. She arrived at Halifax in twelve and a half days, where she was detained eight hours, and made the passage thence in thirty-six hours. She brought to Halifax 48 cabin passengers,

among whom was the Hon. Samuel Cunard. She was received on her arrival at Boston, by a salute from Long Wharf and from East Boston. The Britannia is a beautiful vessel, was built at Greenock, and is the largest steamer ever built at that port. She is 230 feet long, by 32 feet between the paddle boxes. The forecastle deck is four feet above the main deck. The officers' rooms are in deck houses, adjoining the paddle boxes. The principal deck house, consisting of the saloon and steward's bar, is 71 feet long, by 14½ feet broad.

One end is partitioned off at the head of the stairs leading to the second deck; between this and the saloon, is a passage, four feet wide, across the whole width of the deck house, which terminates at a door on each side, forming the principal entrance to the saloon. This saloon is 36 feet long, by 14 wide, and 7 feet high.

Behind the saloon is a platform, about two feet from the deck, for the helmsman, from which he has a view of the whole deck of the vessel, over the saloon. The bulwarks, on which is a slight railing, is five feet above the deck, so that the passengers are completely sheltered from the weather when pacing the deck; it also prevents the possibility of any one falling overboard, which has sometimes, unfortunately, happened to those afflicted with sickness. The Britannia has three masts, fore, main and mizen, and is ship rigged.

There is a bulkhead which extends the whole width of the ship, from the main deck to the second deck, 80 feet from the stern. In this space are the state rooms and berths. Next to the bulkhead, and nearest the middle of the vessel, are the ladies' apartments, consisting of eight state rooms, containing 22 berths; and two open berths at the end of the ladies' cabin, which is the centre of the above mentioned state rooms. There is a passage, by which communication can be kept up between the ladies' and gentlemen's cabins, without going on deck.—There is accommodation for 124 cabin passengers, viz: 24 berths in the ladies' cabin, and 100 berths for gentlemen.—There are four public rooms: the ladies' cabin, the gentlemen's two cabins—the one before and the other aft—and the grand saloon.

The engines, boilers and coal-bunkers occupy a space of 70 feet, the width of the vessel. There are four boilers, having three furnaces each. These are placed two in the breadth of the vessel, two of them being fired from the engine room, and two further aft. The steam of all these lead into one chest, from which it passes through a pipe to the engine, and the smoke flues all terminate at the basin of the funnel.

The four steam ships are the Britannia, built by Mr. Duncan, of Greenock, the Acadia, built by Mr. Wood, of Port Glasgow; the Caledonia, building by Mr. Charles Wood, at Dunbarton; and the Columbia, building at Mr. Steel's yard, at Greenock.

The Britannia being of only 12 or 1300 tons burthen, and having a power of 444 horses, it will be easily seen that she contrasts favorably with the British Queen. The British Queen is between 18 and 1900 tons burthen, having a power of 500 horses. Thus the Britannia has 100 horse power more than the British Queen, in proportion to the size of the boats and the power of the engines.

The Britannia arrived before the news of the arrival of the British Queen had reached Boston, and brought news from Liverpool, later than the last previous advices, by 29 days. She brought news of the death of King Frederic William III. of Prussia, on the 7th of June, and the accession of his son, Frederic William IV. On the 10th of June, two pistols were fired at the carriage of Queen Victoria and Prince Albert, while they were taking an airing in the Royal Gardens, by a young man probably insane, named Edward Oxford. The assailant was immediately taken into custody, and held for trial. No injury was done, nor was it fully ascertained whether the pistols were loaded with ball. News from Canton to March 27 had been received by the overland mail from India, at which time the American merchants had all left Canton, and the foreign trade was all suspended by an order from the Emperor. The British forces destined against China, had not arrived. The civil war in Spain appeared to be approaching a termination. The Carlist forces were retreating before the Queen's troops towards the French frontier, and many of them had already taken refuge in France, in a state of great destitution. Courvoisier, the murderer of Lord William Russell, had been tried in London, convicted and sentenced to be hung.

The next ship by this line will be the Acadia, which will leave Liverpool Aug. 4. The mails will be made up in London on the 3d of each month, and also on the 18th of September and 18th of October. The return mails from Halifax will be made up on the 3d and 18th of the month.